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AN INVESTIGATION IN THE WALLABY OF THE MUSCLE TRAUMA CAUSED BY THE COMMON INCISIONS USED IN LAPAROTOMY.

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ANY surgeon who has seen abdominal surgery in many parts of the world and in different clinics in the individual countries, cannot fail to have been struck with the variations in the incisions used for opening the abdomen. English surgeons of high repute, such as Moynihan and Sherren, say that the best incision for opening the abdomen is one in which the anterior sheath of the rectus muscle is opened near the mid-line, and the rectus is then retracted laterally before the peritoneum is opened. They maintain that this incision is anatomically correct and produces a minimum of trauma with the least tendency to subsequent hernia.

On the other hand, many other eminent surgeons retract the rectus medially after opening its sheath or split the fibres of the rectus before incising the peritoneum with, they say, equally good results.

Again there is a third group of surgeons who have a preference, where possible, for the muscle splitting or gridiron incision; this method is greatly favoured by Australian surgeons for appendicectomy.

This paper is the result of an experimental attempt to place the use of these incisions on a definite pathological basis.

The wallaby was used because it is an animal which usually maintains the upright posture similar to man and the higher apes and there is practically the same stress put on its abdominal muscles.

Two wallabies were used and were kept before and after operation in a grass quadrangle at the Medical School of the University of Sydney. Ether was ably administered to both wallabies by Mr. Jamieson, of the Department of Anatomy staff and they were operated upon with the same precautions as regards asepsis as in ordinary surgical work. In each case the peritoneum was opened as in the ordinary laparotomy and closed again with plain catgut. The muscle and fascia were sutured with twenty-day chromacized catgut Number 1 and so were the skin incisions. For twenty-four hours after

the operation the wallabies were kept indoors, tied up in sacks to lessen the chance of postoperative pneumonia to which they are very prone. They both did well and their wounds healed by first intention, so that within a week they were both eating well and a few days later had resumed their normal active movements in the grass quadrangle.

Two months later they were both killed by an overdose of chloroform and sections were taken from the region of the incisions as under. For descriptive purposes one wallaby is here described as X and one as Z.

In Z the incisions were subumbilical and were as follows:

1. Right side, mid-rectal incision, with splitting of the fibres of the rectus in the mid-line and opening of the peritoneum.

2. Left side, gridiron incision and opening of the peritoneum.

In the case of X the incisions were supra-umbilical and as follows:

3. Right side, incision near the lateral margin of the rectus sheath, the rectus muscle was retracted medially and the peritoneum opened.

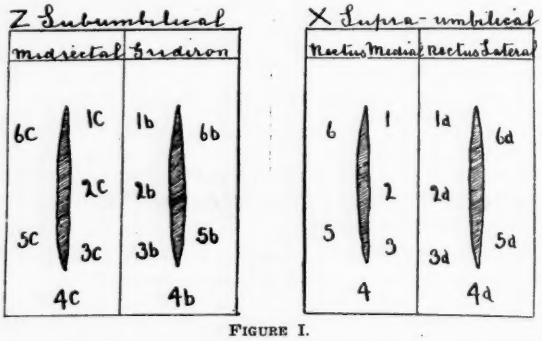

FIGURE I.

4. Left side, incision over the mid-line of the rectus sheath and the rectus was retracted laterally before the peritoneum was opened.

The diagrams in Figure I. illustrate the positions from which the sections were cut. In each case sections about one centimetre square were taken approximately 1·5 centimetres on each side of the incisions with the exception of the sections from the lower end of each incision which were taken 2·5 centimetres from the incision. A total of one hundred and eight microscopical sections were cut and repeatedly examined and checked in all six times. In comparing the amount of degeneration present in the sections some arbitrary classification was found necessary and in the description D1 to D6 was adopted as the comparative amount of pathological change found in each case.

Specimen studies were submitted to Professor Welsh and Dr. Inglis for confirmation of my opinions and I am indebted to Dr. Inglis for the following description of the microscopical appearances in a typical section showing degeneration.

Section 1*a* (X).—This shows definite changes. There is considerable increase of connective tissue, partly fibroblastic mixed with a few inflammatory cells and partly fibrous. This connective tissue separates the muscle cells from each other and is probably largely responsible for the muscle changes which are considerable. Cross sections of the muscle cells show great variation in size and staining reaction. Many of the large cells exhibit a yellow colour and are quite homogeneous. These cells are pathological. Muscle fibrils are cut obliquely or longitudinally in some instances and are very wavy and the more degenerate appear to pass insensibly into fibrous tissue; but this, however, is probably only apparent. Where the fibrous tissue meets the muscle, there is great variation in the size of the muscle fibrils, some being very small and barely recognizable. In a few cases proliferation of the nuclei of the sarcolemma is seen, but it is not conspicuous.

FIGURE II.

Mid-Rectal Incision and Splitting of the Rectus Fibres in the Mid-Line.

Sections from the lateral margin of the mid-rectal incision when the fibres of the rectus were split in the middle line show very slight evidence of degeneration at 6*c* (Z) and 5*c* (Z) (see Figure II.), while at 4*c* (Z) taken 2·5 centimetres below the

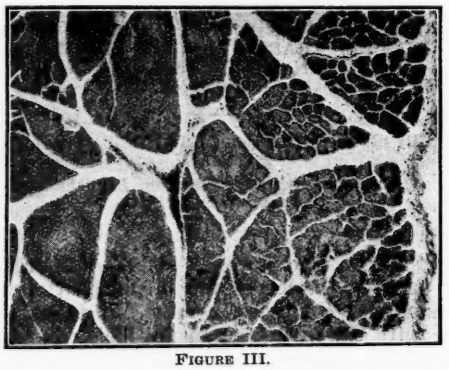

FIGURE III.

incision there is only degeneration of the first degree, D1; this is principally shown by an area of fibrosis nearest the incision. The bulk of the muscle is practically unaltered (see Figure III.).

In cutting sections from the medial aspect of this incision unabsorbed catgut was observed, being in greatest quantity about the middle of the incision. To the naked eye definite fibrosis was observed. Sections at 2*c* (Z) show a maximum of degeneration,

D6 and fibrosis (see Figure IV.). At 1*c* (Z) at the upper end of the incision near which the unabsorbed catgut extended, there is still considerable degeneration and fibrosis, but only to the third degree, D3. The section from 3*c* (Z) shows much less effect as degeneration is present in the second degree only, D2 (see Figure V.).

To sum up apart from the area of degeneration and fibrosis in the area of unabsorbed catgut on the medial aspect of the incision, there is practically little pathological change; while in the area below the incision there is, apart from a very small area of fibrosis nearest the incision, a minimum of change in the muscular structure. Therefore this incision had produced a minimum of muscular injury both

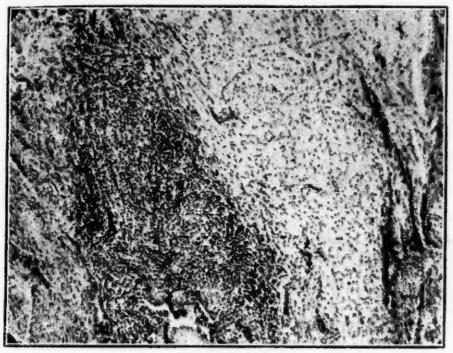

FIGURE IV.

in the immediate area of the incision and in the muscle below it.

This section also illustrates the importance of unabsorbable sutures which produce a great amount of fibrosis, thus weakening the scar with a consequent liability to postoperative ventral hernia. Also, the fact that there is no degeneration below

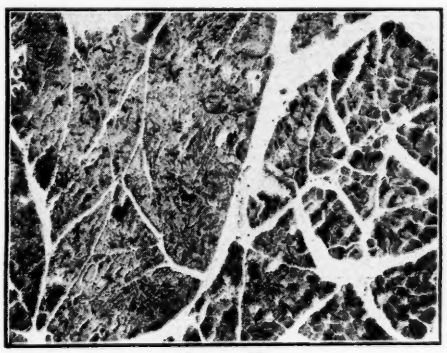

FIGURE V.

the line of incision, refutes the hypothesis of those surgeons who maintain that the use of this incision may subsequently be followed by an inguinal hernia. In my experience, extending over nearly two decades, I have never seen such occur and the above results still further convince me that inguinal hernia will never be produced by the use of this incision.

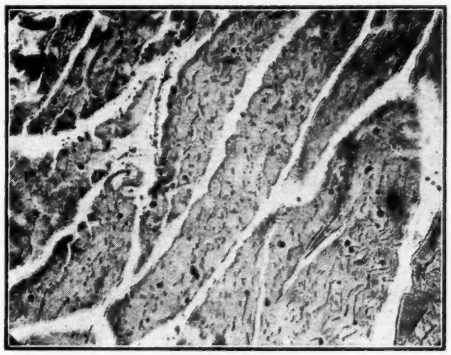

FIGURE VI.

The Gridiron Incision.

Sections from the lateral margin of the gridiron incision at 5*b* (Z) show degeneration present to the fourth degree, D4, extending even a considerable distance from the incision (see Figure VI.), while at 6*b* (Z) there is also considerable pathological change of about the third degree, D3. In

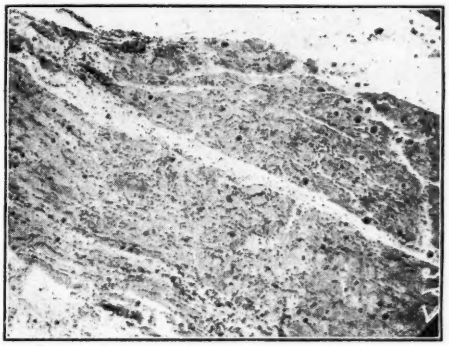

FIGURE VII.

cutting the sections at 6*b* (Z) an area of fibrocartilage was found; its presence will be discussed later. Sections taken from the medial aspect of the incision 1*b* (Z) and 2*b* (Z) (see Figure VII.) show degeneration present to the fourth degree, D4. There is also a considerable amount of fibrous tissue present both between the muscle fibres and actually

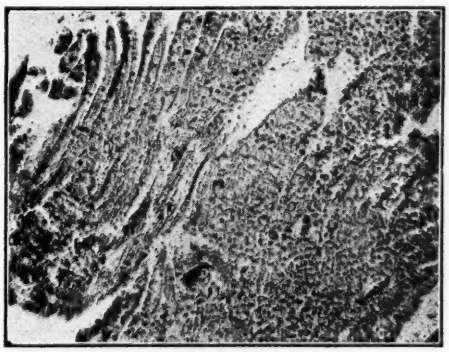

FIGURE VIII.

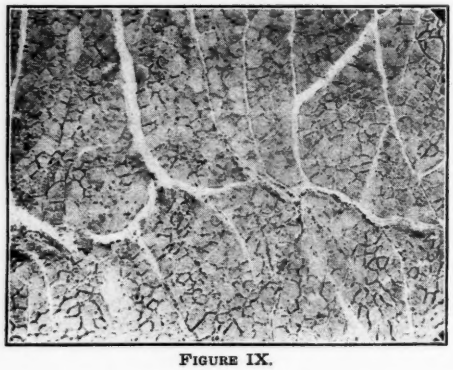

FIGURE IX.

replacing the muscle itself. It is difficult in places to tell when the muscle fibres end and fibrous tissue begins. In the most medial half of this section, 1*b* (Z), that is furthest away from the line of incision, the degeneration is only of the second degree, D2; but sections 3*b* (Z) show pathological changes of the third degree, D3.

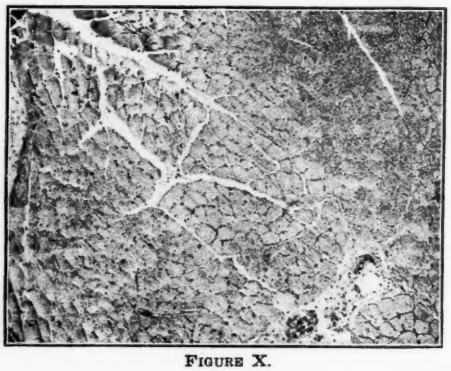

FIGURE X.

In the section 4*b* (Z), taken 2·5 centimetres from the lower end of the incision there are degeneration and fibrosis present to the fourth degree, D4, which extend right across the section (see Figure VIII.) even to the point most distant from the incision.

Compared with the previous incision we see that in all areas considerably more pathological disturbance has resulted. There is much greater interference in this case in the muscle below the incision. Postoperative ventral hernia seems more likely to occur with this incision than in the previous one and here, judging by the changes in the muscle below the incision, a weakening of the lower muscular quadrant may make the subsequent forming of an inguinal hernia a possibility, provided there is a preformed sac.

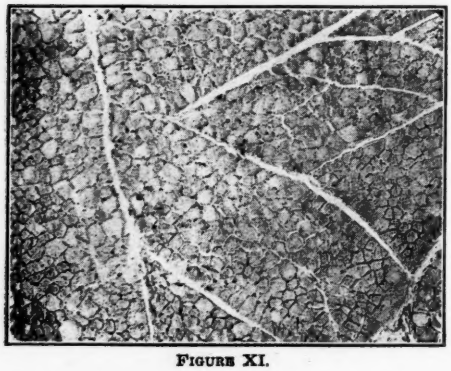

FIGURE XI.

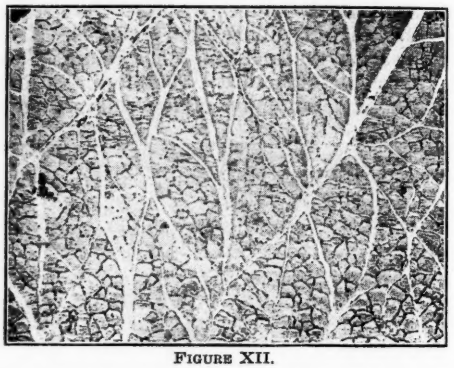

FIGURE XII.

Incision Through Anterior Rectal Sheath with Medial Retraction of the Rectus.

Sections from the lateral aspect at 6 (X) after incision through the anterior rectal sheath with medial retraction of the rectus show few signs of degeneration in only a few isolated muscular fibres (see Figure IX.). At 5 (X) the bulk of the muscle is also entirely unaffected. One isolated patch next to the line of incision exhibits a small amount of degeneration and fibrosis. There is also a superficial fatty layer included in this section exhibiting fibrosis and a few muscle fibres immediately adjoining this area show degeneration of the first degree, D1 (see Figure X.).

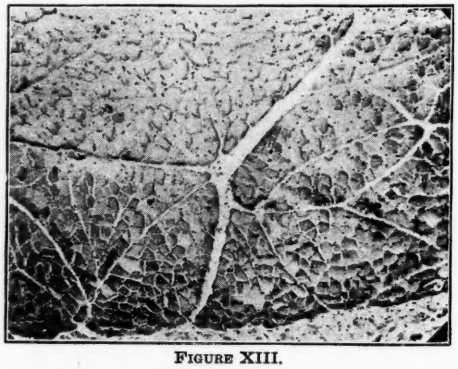

FIGURE XIII.

On the medial aspect sections at 1 (X) show only a minimum amount of fibrous tissue and a few fibrils which are homogeneous and irregular in size. Similarly in section 2 (X) and 3 (X) a few fibrils homogeneous and longer than normal are seen in the area nearest the incision (see Figure XI.).

In this case in the sections at 4 (X) taken below the incision there is practically unchanged muscle (see Figure XII.). Comparing this incision with the previous two it will be noticed that a minimum of trauma has resulted. The likelihood of ventral hernia occurring is a small one, while the unaltered muscle below the incision suggests that it is highly impropable that there could be any predisposition to inguinal hernia.

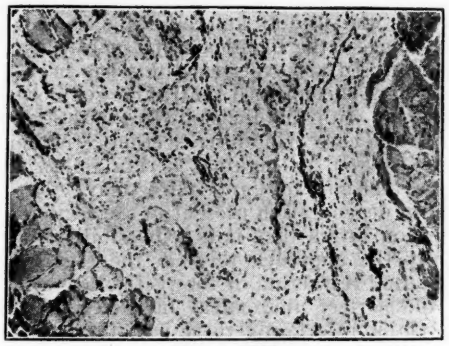

FIGURE XIV.

Incision Through the Anterior Rectal Sheath with Lateral Retraction of the Rectus Muscle.

Sections taken at 6*a* (X) and 5*a* (X) from the lateral aspect of the incision through the anterior rectal sheath with lateral retraction of the rectus muscle yield a little evidence of degeneration, namely homogeneous fibrils and staining irregularities, but at no place is it of more than the first degree, D1 (see Figure XIII.).

On the other hand sections from the medial aspect reveal degeneration and fibrosis present to the fifth degree, D5, at 3*a* (X) (see Figure XIV.). Here a

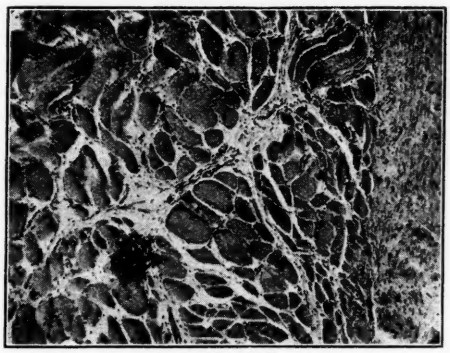

FIGURE XV.

considerable area of muscle has been replaced by fibrous tissue. Also there are evident pathological changes at 1*a* (X) of about the fourth degree, D4. Reference to this has already been made in the pathological report confirmed by Dr. Inglis (see Figure XV.). Similar changes are shown at 2*a* (X), but present only to the third degree, D3.

In this case the muscle below the incision at 4*a* (X) shows the degeneration to be much greater

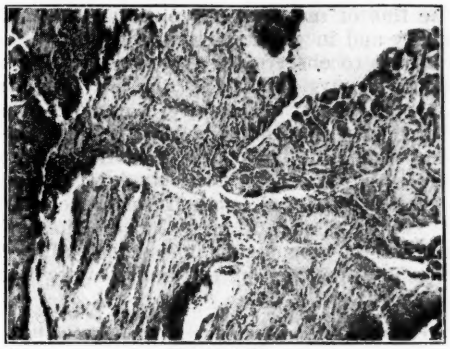

FIGURE XVI.

than in the corresponding sections cut from the three previous incisions. Definite muscular degeneration and fibrosis are present to the fourth degree, D4, they extend even to the extreme edge of the section most distant from the incision (see Figure XVI.).

This approach to the abdomen which is said by many authorities to represent the ideal incision from an anatomical point of view as likely to cause the least amount of muscular injury, does not

FIGURE XVII.

appear from this work to justify the high opinion hitherto held of it. The lateral half of the muscle is seen to contain only a comparatively small amount of degeneration, while in the medial half it is well advanced and also very evident changes appear be-

FIGURE XVIII.

low the line of incision. From using this incision personally and in watching its use by others, I have never failed to observe the free hæmorrhage which invariably occurs in freeing the rectus from its medial attachment. Generally a number of small arteries require ligation and there is always more bleeding when this incision is used than any other. I suggest that the comparatively large amount of degeneration is caused by the interference with the blood supply, both directly by division of the branches of the epigastric arteries and indirectly by thrombosis spreading in the anastomotic network of arteries.

Presence of Fibrocartilage in the Musculature of the Abdominal Wall.

Although outside the scope of this investigation I feel that the observation of fibrocartilage in the musculature of the abdominal wall is worthy of passing mention.

In cutting the sections at 6*b* (Z) the microtome blade was broken and in examining the sections microscopically the reason was found to be the presence in the muscle of an area of fibrocartilage (see Figures XVII. and XVIII.). This observation was verified by Professor Welsh. As the section shows, the cartilage which is undergoing calcification, is histologically incorporated with the surrounding muscle. Thus we have a potential source of cartilaginous or bony tumour in a situation far removed from normal cartilaginous tissue. Is this a focus of a teratomatous nature or is it, as I think, an island of fibrocartilage which became isolated embryologically during the formation of the lower ribs and was carried down to its present situation by the growth of the muscle as the animal attained maturity?

The Relative Value of the Four Incisions Investigated.

In estimating the value of this investigation the personal equation cannot be dismissed and it is necessary to mention that the investigator has had fifteen years' experience of abdominal surgery on the staff of provincial and metropolitan general hospitals. In each operation the same care was exercised and the same technique used as in the case of human subjects, thus reducing to a minimum the necessary operative trauma in each incision.

The incision which had produced the minimum amount of damage is that in which after opening the rectus sheath the muscle was retracted medially. By this approach the abdomen may be opened rapidly and with little bleeding and a good exposure obtained. This is, I think, contrary to the general teaching which is that too many nerves are injured and consequently much degeneration of muscle may be caused. Those who maintain this view, have forgotten the very free anastomosis of nerve fibres which occurs in the muscle layer between the lower intercostal nerves.

The next best incision is obviously the mid-rectal incision with splitting of the fibres of the rectus. Although a little more degeneration is present here than in the previous incision, it is still comparatively negligible and the entry into the abdomen quickly made, is practically bloodless in most cases and can be readily extended if necessary. Again the results of this experiment do not bear out the hypothesis that it causes degeneration in the area below the incision and also liability to both incisional and inguinal herniæ.

In the case of the gridiron incision the result seems contrary to what is usually taught. There is a very considerable amount of degeneration present in all areas examined. The pathological changes in the medial and lateral aspects of the incision suggest the likelihood of a subsequent ventral hernia. In my experience this has been borne out, as I have encountered ventral hernia more often in connexion with this incision than with any other except in the case of mid-line sections. Although I have never seen an inguinal hernia following the gridiron incision for appendicectomy, the large amount of degeneration present in the section below the incision infers that it is a possibility.

Finally the approach through the rectal sheath with lateral retraction of the rectus does not seem to be the perfect anatomical incision that its admirers claim. Certainly there is little interference in the lateral half of the rectus muscle, but the changes in the medial half are uniformly great in the three areas sectioned; while the sections below the incision reveal great pathological changes which are only equalled by the corresponding sections in the gridiron incision.

Thus, I may venture to suggest that in this case, if the peritoneal incision be made as near the lateral margin of the rectus as possible, the healthy muscle overlying the peritoneal incision should prevent a ventral hernia from following. On the contrary I am of the opinion that the extensive area of degenerated muscle below the line of incision makes the subsequent tendency to inguinal hernia in the presence of a preformed sac by no means impossible when the incision extends below the umbilicus to any extent.

Acknowledgments.

This work was done at Sydney University Medical School through the courtesy of the late John Irvine Hunter who provided the necessary facilities and also obtained a grant to defray the expenses of it. I am under a debt of gratitude to Professor Welsh and to Dr. Inglis for their assistance in examining the microscopic slides; also to Mr. Jamieson who was the anæsthetist, to Mr. Harding for his care of the animals and to Mr. Bagnall who prepared the microscopical sections.

ABDOMINAL INCISIONS: AN ATTEMPT AT STANDARDIZATION.[1]

By HENRY PEET, M.B. (Lond.), D.P.H. (Camb.),
Gilgandra.

THE success of an operation depends very largely upon the correct planning of the incision. A faulty incision adds greatly to the difficulties of the

[1] Read at a meeting of the Western Medical Association, New South Wales, on June 17, 1925.

operating surgeon and frequently leaves serious results behind it. A correct incision is therefore of the greatest importance and this paper is the result of my experience in the different types of incisions. There are two main types of abdominal incision:

(i.) The vertical type of incisions, that is, incisions which are more or less parallel to the long axis of the body.

(ii.) The transverse type of incisions, that is, incisions which are more or less transverse to the long axis of the body.

Incisions of the first type are practised by most surgeons today. This is the original type of incision with which abdominal surgery started, first as a median incision through the *linea alba,* then with various modifications in position and inclination, but still with maintenance of the general direction of being in the long axis of the body.

Although this is the favourite mode of incision, it has some serious defects and the second type of transverse incisions have many advantages which outweigh their difficulties under suitable conditions.

The suitability of an incision is determined by the measure with which it fulfils the following conditions. First and most important it must give good and ample exposure. Second, it must leave a cicatrix which does not permanently weaken the abdominal wall or result in an abdominal hernia. It is when measured by these two standards that the different types of vertical incision so frequently turn out to be unsatisfactory. Take, for example, the familiar Bevan S-shaped incision for gall bladder surgery, shown in Figure IV. (C).

Some years ago I had occasion to use this incision in an exploratory operation over the gall bladder region in a thin, spare woman in whom all the organs were found to be normal. A very long and complete incision was made in this case in order to allow a thorough exploration and advantage was taken of this fact to study the exposure obtained of the bile ducts and other deep structures through this incision and its convenience for operating. I was much impressed with the fact that here in a thin, spare woman with normal organs how poor an exposure of the deep parts was obtained and in a very fat patient with inflammatory conditions and adhesions present how extremely difficult it would be to do an operation on the bile ducts through this incision.

I am inclined to think that the mechanical difficulties of these incisions are responsible for the invention of those complicated four bladed retractors which one frequently sees. If the incision is properly planned, there should be no need for these mechanical aids.

Another point that has been impressed upon me in private practice, is that it has been my experience to see patients who have had the gall bladder removed by surgeons of undoubted skill in a well organized hospital, and yet the condition of these patients has been made utterly miserable. The only possible explanation of these surgical failures to my mind is that owing to the mechanical difficulties of the incision through which he has operated, the surgeon has not had a fair chance to do justice either to himself or his patient.

With regard to the second condition of occurrence of postoperative hernia it has been my experience that, in spite of the most careful sewing up of the different layers of the abdominal wall after vertical incisions which have been unduly long, at a later period distressing weakness of the abdominal wall and ventral hernia have resulted. Hence, when length of incision and amplitude of exposure were required, I have found the second or transverse type of incision to be by far the best.

I first learned the value of these transverse incisions by reading an article by A. E. Maylard, of Glasgow, published in *The British Medical Journal* of October 5, 1907.

Maylard points out that the anatomy of the abdominal wall is more adapted to the transverse type of incision than to any other. The three powerful muscles unite anteriorly into one strong, central aponeurotic tendon which splits to enclose the rectus muscle and unites in the mid-line. The nerves pass more or less transversely and, therefore, escape injury in the transverse type of incision. The blood vessels and lymphatics course upwards and downwards and anastomose freely except at the *linea alba* which is practically evascular and destitute of lymphatics. An incision therefore which runs transversely from, say, the neighbourhood of the umbilicus, will run in the direction of the fibres of the great aponeurosis and hence contraction of the three great muscles will not put tension upon the margins of the wound, but rather tend to draw them together. The abundant blood supply on either side of the incision leads to a rapidly formed cicatrix and the abundant lymphatic supply leads to a rapid absorption of the exudation.

Maylard lays stress upon the superiority of these incisions with regard to the formation of the cicatrix, but I have found a still more important advantage lies in the greatly improved exposure of the operating field. Maylard both practised and advocated these incisions in all cases of abdominal surgery, except when rapidity of operation was an overwhelming factor. I have found it a better plan to use the transverse incisions whenever ample exposure and freedom from postoperative hernia are predominant features; in all other abdominal operations the much easier and simpler vertical type of incision is to be preferred.

Types of Transverse Abdominal Incision.

The incisions vary slightly in direction according to the region in which they are made. From the point of view of direction of incisions, the abdomen may be divided into three regions:

(i.) The upper region, extending from the ensiform cartilage to the lowest point of the costal arch. Here the incision is slightly oblique from the mid-line above downwards and outwards, following the direction of the aponeurosis.

(ii.) The middle region, extending from the lowest point of the costal arch to the anterior superior spine of the ilium. Here the incisions are exactly transverse.

(iii.) The lower region, from the anterior superior spine of the ilium to the level of the pubis. Here the incision is curvilinear, coursing near the centre upwards and outwards to the right or left or curving transversely across the abdomen with the lowest point of the curve four to five centimetres (one and a half to two inches) above the pubis (see Figure I.).

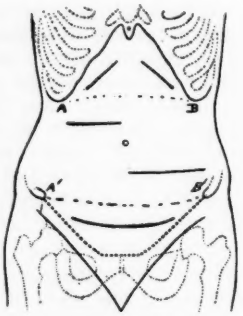

FIGURE I.
Diagrammatic Representation of Transverse Incisions. Above dotted line A B the incisions are oblique. Below dotted line A' B' the incisions are curvilinear. Between A B and A' B' the incisions are transverse.

Technique of Making Transverse Incisions.

The aponeurosis is divided in the direction of its fibres and the anterior sheath of the rectus is divided to its full extent, the rectus muscle being either retracted or divided in the same direction as the sheath according to the amount of exposure required.

In sewing up the incision, if the rectus muscle has been divided, all tension on this should be removed by raising the head and foot of the operating table slightly. In sewing up the fat and skin I have modified my technique as a result of two difficulties I have experienced in the past. The first of these difficulties was that in a fat person, no matter how carefully one sewed up the layers of fat, there was frequently a troublesome oozing. This effusion would sometimes suppurate, but in any case it would cause a slight rise of temperature and would have to be let out, thus causing an annoying delay in convalescence. To overcome this difficulty I have adopted an old method of using silkworm-gut sutures as compression sutures by means of a roll of gauze as will be described later. The second difficulty was in suturing the skin. With regard to the various skin sutures I have tried all the different methods of which I had read and which I have seen at different hospitals, but for various reasons I was dissatisfied with all of them and I finally adopted a method of my own which I have called for want of a better name the "envelope stitch." I have called it a method of my own which means that I have not seen or read of it anywhere, though of course it has probably been used by many others.

To proceed with the technique at this stage. The silkworm-gut compression sutures are passed first. With a large, curved needle a silkworm-gut suture is passed in a curved direction through the whole thickness of the fat, commencing about two centimetres (three-quarters of an inch) from the edge of the wound. Coming out at the bottom of the wound, the needle is made to pass through the ridge of sewn aponeurosis and it is then passed in a curved direction through the opposite edge of the wound in the same manner as at its entry, the path of the stitch from the entrance to exit forming a half-circle. It is left untied. Three, four or more of these silkworm-gut sutures are passed at intervals according to the length of the wound, the sutures being about four to five centimetres (one and a half to two inches) apart and the free ends of these sutures being held temporarily in a clamp above and below the wound, until the skin sutures are completed. If there is an excessive amount of fat, a few interrupted sutures of fine catgut may be used to bring this together, but as a rule this is unnecessary.

The skin suture is carried out as follows. Beginning near one end a sharp bayonet-pointed straight needle, threaded with fine catgut, is passed at a distance about one centimetre from the edge of the wound, the needle entering just beneath the skin and including no fat. Having passed through the skin of the opposite edge of the wound to the same distance, the needle is brought back and again passed through the skin of both edges, the distance between the two points of entry being equal to the distance between the entrance and exit. The two ends are now tied and this gives the appearance of a square envelope as shown in the illustration (see Figure II.). A number of these envelope stitches, usually four to six, are placed along the length of the wound, the number and size being readily judged by the eye, the larger and more gaping the skin incision, the larger the size of the envelopes.

I have found these envelope stitches to possess the advantages of both a continuous and an interrupted stitch, that is to say they can be very easily and rapidly placed, they produce accurate coaptation of the edges of the wound without tension and if for any reason it is necessary to explore any portion of the wound, this can be done at any point without weakening the remaining portion.

After the envelope stitches are completed, a thick roll of sterile gauze is placed along the full length of the wound and the silkworm-gut sutures are tied separately and firmly over the gauze. In this way the whole of the layers of the wound down to the aponeurosis is subjected to firm compression without tension on the skin and oozing is thereby prevented.

Special Incisions for Special Operations.

The following will be described in some detail:

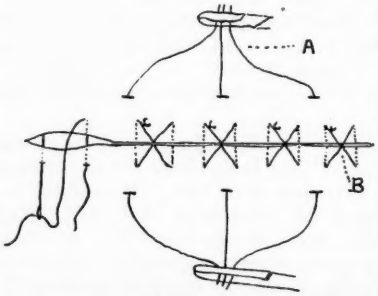

FIGURE II.
Showing Arrangement of Envelope Stitches (catgut) and Tension Sutures Silkworm Gut. A = tension sutures temporarily held in a compression forceps. B = incision with envelope stitches.

(i.) Incisions for pelvic surgery;

(ii.) Ideal incision for gall bladder surgery;

(iii.) Ideal incision for a quiescent appendix;

(iv.) Ideal incision for acute appendicitis;

(v.) Ideal incision for suprapubic prostatectomy.

Incisions for Pelvic Surgery.

The incision for hysterectomy, large pelvic tumours or any extensive pelvic surgery, is shown in the accompanying diagram (see Figure III.). It is a curvilinear transverse incision, with its centre at the mid-line four to five centimetres (one and a half to two inches) above the pubis and is from fifteen to twenty-five centimetres (six to ten inches) long. Both sheaths of the rectus muscles are divided and one or both of the rectus muscles completely divided, though usually one rectus muscle may be sufficiently retracted without division being necessary. This incision gives exceedingly good exposure with great ease and comfort in working and, provided care is taken in securing complete hæmostasis, the wound heals quickly with a firm scar without any tendency to gape or form a ventral hernia.

For all ordinary pelvic surgery, the right paramedian vertical incision offers the easiest and most suitable approach.

Ideal Incision for Gall Bladder Surgery.

In operations upon the gall bladder and ducts a good and ample exposure with complete ease of working is essential to prevent the disastrous results sometimes seen. The method which I have found to give the greatest ease of working and the best exposure, is as follows.

The patient is placed in the slightly reversed Trendelenburg position, the head of the table being raised ten to fifteen centimetres (four to six inches) and the direction of the incision is a modification of the well known Kocher incision (see B in Figure III.). The centre of the incision is about four centimetres (one and a half inches) below the right costal margin, opposite to a point where the line joining the right nipple and the umbilicus crosses the costal margin or about the same position as the outer edge of the right rectus muscle.

The incision is an oblique one, but not, as described in Kocher's original book as an incision, parallel to the costal margin, but in a direction more inclined to the transverse or in a direction bisecting the angle between the costal margin and the transverse direction.

The aponeurosis, the right rectus sheath and the right rectus muscle are divided and if for any reason more room is required, the left rectus sheath may be divided wholly or partially and the left rectus muscle retracted or divided.

The exposure given by this position and incision is very complete. The upper edge of the incision is held up by the costal margin, the intestines fall away and the lower edge of the incision tends to fall back on to the spinal column, so that one comes right down, as it were, on to the region of the bile ducts and very little retraction is required.

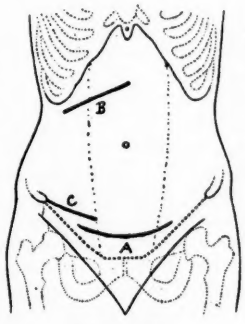

FIGURE III.
A = long curvilinear transverse incision for extensive pelvic operations. B = modified Kocher incision for operations on the gall bladder and ducts. C = ideal incision for quiescent appendix.

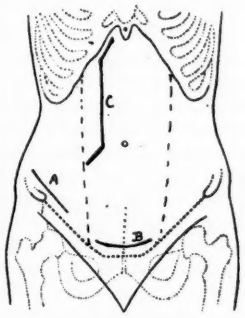

FIGURE IV.
A = incision for acute appendicitis (Whitelocke). B = transverse curvilinear incision for suprapubic prostatectomy or removal of stones *et cetera* from bladder. Dotted line shows the direction of incision through right rectus sheath. C = Bevan incision.

Ideal Incision for a Quiescent Appendix.

This incision is shown at C in Figure III.. Starting from the right anterior superior iliac spine, it curves downwards and inwards, following the contour of the abdominal wall to the outer border of the right rectus. The incision is carried out as a muscle-splitting incision after McBurney's method and, being subject to no traction, leaves a very faint scar which is often very difficult to find. Its use is confined chiefly to males. In females, right iliac pain is so often due to other causes besides appendicitis, that I usually prefer a right paramedial incision through which the pelvic organs can be thoroughly examined and any necessary treatment carried out. All forms of acute or subacute appendicitis, however, no matter of what age or sex the patient may be, must be operated upon through the incision to be next described.

Ideal Incision for Acute Appendicitis.

In all cases of acute appendicitis, whether the operation is done during the attack or some time later, the only incision through which the operation can be done with absolute safety is the ileo-inguinal incision of Whitelocke.

In February, 1920, R. H. A. Whitelocke, of Oxford, published a paper in *The British Medical Journal* entitled: "Appendicectomy by a New Route" in which he describes his ileo-inguinal incision. The incision is designed for cases of acute or subacute appendicitis only, the object of the incision being to give access to the inflamed appendix from the iliac fossa or lumbar region, that is from the outer or posterior aspect of the caecum and appendix, without going into the peritoneal cavity at all. I have used this incision for a large number of cases of acute fulminating appendicitis, severe cases of gangrene, large appendix abscess and other complications in patients who have been acutely and dangerously ill, as well as for the less severe type and the patients all recovered with the exception of a baby twelve months old who died a few hours after the operation from shock.

The adoption of this mode of approach gives that feeling of confidence in the ultimate result, no matter how severe or how late the condition, which is of such priceless value to the operating surgeon. I have no hesitation in saying that when this incision is adopted and the proper technique carried out, no patient suffering from appendicitis or its complications need die of toxæmia.

The technique of the incision may be described as follows:

The incision is made one and a quarter to two and a half centimetres (one-half to one inch) internal to the anterior superior iliac spine or as near to it as practicable; the incision runs parallel to the iliac crest, the anterior superior iliac spine and Poupart's ligament, its centre being opposite the anterior superior iliac spine and its length varying according to circumstances (see A in Figure IV.). As soon as the peritoneum is exposed, it should be carefully examined for any sign of inflammatory trouble or thickening and, if such be present, the peritoneum should always be opened only through the inflamed or thickened part.

Ideal Incision for Suprapubic Prostatectomy and Removal of Calculi or Foreign Bodies from the Bladder.

The ideal incision for suprapubic prostatectomy or for removal of calculi or foreign bodies from the bladder is a transverse curvilinear incision with its centre four centimetres (one and a half inches) above the *symphysis pubis* (see B in Figure IV.).

After the skin and superficial fascia are divided, the upper flap is dissected upwards for a short distance with a few strokes of the scalpel. A temporary suture is then passed through the centre of the edge of the flap and through the skin in the neighbourhood of the umbilicus. This is tied, thus drawing the upper flap well up and allowing for the next step.

The sheath of the rectus is next divided in a vertical direction one centimetre external to the median line, commencing from the *symphysis pubis* and extending upwards as far as necessary. The rectus muscle is next retracted outwards, care being taken that it is freed right down to the *symphysis pubis* and that the fatty tissue in front of the bladder is exposed. This method gives a much better approach to the bladder and a far better post-operative wound than the usual vertical incision.

Conclusions.

1. The commonly used vertical incisions possess the following serious defects:

(*a*) Anteriorly they cut across the direction of the great aponeurosis, across the peripheral nerves and are in the position of minimum vascular and lymphatic supply and therefore in the position least favourable to sound healing.

(*b*) They give a limited and inferior exposure with resulting defective surgery, especially in gall bladder work.

(*c*) They have a tendency to produce post-operative hernia, owing to the constant lateral pull of the abdominal muscles and the injury to the nerves.

They possess the advantage that they are more rapidly and easily performed than the transverse type of abdominal incisions and therefore are the most suitable when extensive exposure is not required and when speed of operating is essential.

2. The transverse type of abdominal incision possesses the following important advantages over any other type of incision:

(*a*) Anteriorly they run in the direction of the fibres of the aponeurosis and of the peripheral nerves and in the direction which receives the maximum vascular and lymphatic supply, and are therefore more favourable to sound healing.

(*b*) Excellent exposure.

(*c*) No postoperative hernia, the lateral pull of the abdominal muscles tends to close the incision.

They labour under the disadvantage that they take longer to perform and to close than the vertical type of incison.

3. The modified Kocher incision is the most suitable incision in gall bladder surgery. This incision gives very complete exposure with ease of working and a very strong cicatrix.

4. The ilio-inguinal incision of Whitelocke is the most suitable incision in all cases of acute or subacute appendicitis. If the operation is done by this method, no patient suffering from appendicitis or its complications, however severe, need die of toxæmia.

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LAENNEC.[1]

By A. W. HOLMES À COURT, M.D. (Sydney), M.R.C.P. (London),
Honorary Physician, Sydney Hospital; Honorary Physician, The Coast Hospital, Sydney.

THE centenary of the death of René Théophile Hyacinthe Laennec will this year be commemorated throughout the medical world. It is, therefore, right and proper that we should pay tribute to the genius of one of the masters of medicine—one who deserves to stand with the immortals by the side of Hippocrates and Galen, Harvey and Sydenham.

Laennec was born in 1781 at Quimper, a seaport town of Brittany, a province which has furnished several illustrious names in the history of French medicine. He came of a family of poetic temperament and is said to have been a lineal descendant of the Breton poet, Malherbe. At the age of six years after the death of his mother the young Laennec went to live with his uncle who was rector of the neighbouring parish of Elliant and appears to have remained under his care for a period of about three years. The uncle was then appointed Vicar General of the diocese of Tréquier, but was shortly obliged to flee from the country to escape the general proscription of the clergy which took place in France at that time.

It is recorded that he died of pulmonary tuberculosis at Southampton in 1800. This statement

[1] Read at a meeting of the Section of Medical History and Literature of the New South Wales Branch of the British Medical Association on October 14, 1926.

is of interest from the medical point of view and may have a direct bearing upon the life history of Laennec himself, although the fact appears to have escaped the notice of his biographers. It is indeed possible that Laennec's poor physique and general ill-health may have resulted from a juvenile infection of tuberculosis contracted in early life from his uncle, the Vicar.

After the loss of his guardian little Laennec returned to his father who had remarried, but shortly afterwards was sent to live with his uncle, Guillaume Laennec, a distinguished physician of Nantes who had previously studied in England under Hunter and was at this time Rector of the University of Nantes.

The influence of this uncle seems to have inspired the boy with industry, love of culture and an unbounded enthusiasm for the profession of medicine to which he was later to prove so bright an ornament.

His boyhood days at Nantes cannot be regarded as tranquil and unruffled, as we read that in 1792 a permanent guillotine had been erected opposite the house of Dr. Guillaume Laennec and that the young René and his brother, Michaud, had to be taken to school by the back lane so that the sight of this horror might be kept from the innocent eyes of childhood.

At the age of fourteen and a half years Laennec entered as a student at *l'Hôtel Dieu* at Nantes in September, 1795. In the same month he was appointed Military Surgeon of the Third Class and was probably attached to *l'Hôpital la Paix* with his uncle, an evidence of the shortage of medical officers due to the violent character of the times. During the next six years he studied assiduously under the guidance of his uncle and in 1801 proceeded to Paris where he entered at *l'École de Médécine* and engaged seriously upon his life's work. It is recorded that at this time he suffered from asthma, insomnia and neurasthenia and that his general health was so bad that he was on the verge of giving up his career for life in the country. To the medical mind these symptoms seem explicable on the assumption previously mentioned that he had already suffered from an infection of the tubercle bacillus which was eventually to claim him as its victim at the early age of forty-five years. Although handicapped by poverty and ill health, he worked assiduously at *La Charité* and came under the influence of Corvisart, then at the height of his fame having reintroduced the method of percussion into clinical medicine, which although discovered nearly half a century before by Auenbrugger, had become neglected and almost forgotten.

At this period Laennec's greatest interest seems to have been in morbid anatomy, but he contributed many papers of medical interest including an essay on hydatid cysts published in 1804, in which the parasitic origin of the disease was first clearly recognized. In 1805 he published a paper on pathological anatomy which gave rise to a sharp controversy with Dupuytren who was at that time the most famous French surgeon and claimed priority for certain anatomical observations.

Gradually Laennec's attention became focused upon clinical medicine and we find him strongly advocating the necessity of correlating clinical observation with morbid anatomy and pathology. In 1816 Laennec was appointed physician to the Necker Hospital which was to be the scene of his life's greatest work. Admirable as were his researches as a morbid anatomist and pathologist, Laennec's claim to immortality is based upon his monumental work on mediate auscultation which followed his invention of the stethoscope. His own description of his discovery is so delightful in its modest simplicity that it must be quoted in his own words:

> In 1816 I was consulted by a young woman presenting general symptoms of disease of the heart. Owing to her stoutness little information could be gathered by application of the hand and percussion. The patient's age and sex did not permit me to resort to the kind of examination I have just described (*i.e.* direct application of the ear to the chest). I recalled a well known acoustic phenomenon: namely if you place your ear against one end of a wooden beam the scratch of a pin at the other extremity is most distinctly audible.
>
> It occurred to me that this physical property might serve a useful purpose in the case with which I was dealing. Taking a sheaf of paper I rolled it into a very tight roll, one end of which I placed over the præcordial region whilst I put my ear to the other. I was both surprised and gratified at being able to hear the beating of the heart with much greater clearness and distinction than I had ever done before by direct application of my ear.

This simple narrative loses something of its fascination in translation, but it marks an epoch making discovery in clinical medicine. We moderns who have come to regard the stethoscope as part of our essential equipment should reflect with gratitude upon the insight of this wonderful man.

Laennec was quick to realize the scope of his discovery and worked diligently, completing his observations of physical signs of thoracic and cardiac disease. His description of the evolution of tuberculous lesions in the lungs still remains a masterly exposition of morbid anatomical observation.

His masterpiece *"De L'Auscultation Médiate ou Traité du Diagnostic des Maladies des Poumons et du Coeur, Fondé principalement sur ce nouveau Moyen d'Exploration,"* was published in two volumes in Paris on August 15, 1819. In the words of his contemporary, Addison: "His work *De L'Auscultation Médiate* will ever remain a monument of genius industry, modesty and truth."

Shortly after the publication of his book, Laennec's health broke down again and it is recorded that he was suffering from dyspnœa, cough, anorexia, weakness and great depression of spirit. He was obliged to retire from Paris and returned to Brittany to breath his native air. There can be no doubt that he was definitely suffering from pulmonary tuberculosis at this time. After a retirement of two years his health improved and he returned to Paris in 1821.

During the remaining four and a half years of his life the amount of work which Laennec achieved was

truly amazing. In addition to his appointments as lecturer in clinical medicine at the Necker Hospital and *La Charité* heheld numerous positions of honour in the medical life of Paris and carried on an extensive practice. He completed a second edition of his book which was published in 1826. While correcting the proofs of this edition his frail body began to fail in its lifelong contest with disease. He developed sore throat, great weakness, hectic fever, profuse diarrhœa and night sweats. Realizing that he was dying of pulmonary tuberculosis, he left Paris for his native Brittany where he died on August 13, 1826.

Almost without exception the greatest discoveries in medicine have been met, if not with opposition, certainly with neglect and lack of appreciation. Laennec's work was no exception to this rule and his teachings met with antagonism and unjust criticism which he countered with admirable tolerance and restraint.

It is, however, a characteristic of genius to give a completeness to work which endows it with an enduring and independent vitality.

The practitioner of today, well versed in physical signs, might read the writings of Laennec with amazement to find that there remained so little to be added or altered.

After the lapse of a century little has been added to our knowledge of the clinical signs of pulmonary disease and the work of the master still stands a monument of clinical observation and accuracy. He was undoubtedly one of the greatest physicians in history and his achievements are the more remarkable in view of his miserable ill health and the turbulent unrest of the times in which he lived. The life, work and character of this distinguished man are preeminently worthy of our admiration and respect.

COMMEMORATION OF LAENNEC: HIS WORK ON THE HEART AND LUNGS: HIS INVENTION OF THE STETHOSCOPE.[1]

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THE saying that genius is a capacity for taking infinite pains is often quoted with approval. It is not true. Genius is a capacity for doing with ease what others do with pains and for doing with pains what others cannot do at all. The highest achievements require the combination of genius and of pertinacity.

René Théophile Hyacinthe Laennec whom we commemorate tonight, illustrates this combination. He had soaring originality of thought and unrelenting powers of application. He did a giant's work.

He was eminent in three respects, as a morbid anatomist, as a clinical physician and as the inventor of the stethoscope.

In morbid anatomy he followed Morgagni, Corvisart, Bichat and Bayle. He elucidated the evolution of the tubercle and showed the invariable association of bronchitis with tuberculosis of the lung; he demonstrated that the hydatid cyst is an extraneous parasite; he described pulmonary apoplexy, valvular disease of the heart, peritonitis and melanotic cancer.

In clinical medicine he was triply equipped to study the natural history of disease by his experience of *post mortem* examination, by his wide reading of medical history and by his careful bedside investigations, especially with his own instrument, the stethoscope.

Like our own Sir William Osler, recently deceased, he based all his work on the *post mortem* examinations which he began at the commencement of his career and which he continued to make at the zenith of his fame. So eager was he for the knowledge of medicine recorded in the classics that he learned Greek in order to read Hippocrates. He flourished in an age of scientific revival, an age which recognized the uniformity of Nature and its government by order, not by caprice. Laennec obeyed the Aristotelian doctrine of the appeal to Nature. His method of correlating the physical signs observed during life with the lesions found on dissection after death is his chief contribution to science. He describes it thus:

> When a patient enters the hospital it is the duty of a pupil to collect from him those facts which he can give concerning the history of his disease, and to follow their course. On examining the patient myself, I dictate the principal symptoms which I observe—those especially which may serve to establish the diagnosis or indication for treatment; and I confirm my conclusion, unless I may have changed it, by subsequent observations. This dictation, which is made in Latin, for reasons easily appreciated, is taken down by the pupil in charge of the patient, and at the same time on a separate sheet, which I call the "diagnostic leaf" to keep which, in order that it may be shown to me and read whenever required at each visit, is the especial duty of another pupil. If a new sign appears, such as might modify the first diagnosis, I have that also added. If a patient die, the account of the autopsy is collected by the pupil in charge of the case. I read this account before all those who have been present at the autopsy, and if any correction is to be made, I make it on the spot after having consulted with them.

He lectured on all branches of internal medicine, but perhaps his most valuable work was that on peripneumonia (or as we now say pneumonia, though the disease is so constantly accompanied by pleurisy that we might well call it pleuro-pneumonia, as do veterinary surgeons) and on pulmonary tuberculosis. On the latter Laennec's chief doctrine may be summed up in the four words: "The unity of Phthisis." As a result of his *post mortem* studies and their coordination with his clinical studies, *les resultats de l'ouverte des cadavres comparés à ceux de l'observation des malades*, he was able to announce that miliary tubercle, infiltration, caseation and excavation are all one and the same process, that is, that tuberculosis is the cause of phthisis. He discovered not only the destructive process, but also the reparative and showed how healing might occur. He advocated fresh air in treatment.

We have said that Laennec was eminent as a morbid anatomist and as a clinical physician; his third

[1] Read at a meeting of the Section of Medical History and Literature of the New South Wales Branch of the British Medical Association on October 14, 1926.

achievement, the invention of the stethoscope, is the most familiar; yet strangely enough though his descriptions of morbid anatomy and of clinical medicine are known to us all—do they not form the web and woof of our ordinary professional teaching?—his description of the stethoscope is neglected. As many a physician might improve his facility with this instrument did he know Laennec's own words I propose to read them to you from his immortal work, *"De l'Auscultation Médiate ou Traité de Diagnostic des Maladies des Poumons et du Cœur, Fondé principalement sur ce nouveau Moyen d'Exploration,"* issued in 1819.

Laennec employed direct auscultation (the notion of which he had derived from Hippocrates) but found it of limited value. He says:

Independently of its deficiencies there are other objections to its use: it is always inconvenient, both to the physician and to the patient; in the case of females it is not only indelicate but often impracticable; and in that class of patient found in hospitals it is disgusting.

He goes on:

§8. In 1816 I was consulted by a young woman presenting general symptoms of disease of the heart. Owing to her stoutness little information could be gathered by application of the hand and percussion. The patient's age and sex did not permit me to resort to the kind of examination I have just described (*i.e.*, direct application of the ear to the chest). I recalled a well-known acoustic phenomenon: namely, if you place your ear against one end of a wooden beam the scratch of a pin at the other extremity is most distinctly audible. It occurred to me that this physical property might serve a useful purpose in the case with which I was then dealing. Taking a sheaf of paper I rolled it into a very tight roll, one end of which I placed over the præcordial region, whilst I put my ear to the other. I was both surprised and gratified at being able to hear the beating of the heart with much greater clearness and distinctness than I had ever done before by direct application of my ear.

§9. I at once saw that this means might become a useful method for studying, not only the beating of the heart, but likewise all movements capable of producing sound in the thoracic cavity and that consequently it might serve for the investigation of respiration, the voice, râles and even possibly the movement of a liquid effused into the pleural cavity or pericardium.

With this conviction, I at once began and have continued to the present time, a series of observations at the *Hôpital* Necker. As a result I have obtained many new and certain signs, most of which are striking, easy of recognition, and calculated perhaps to render the diagnosis of nearly all complaints of the lungs, pleuræ and heart both more certain and more circumstantial, than the surgical diagnosis obtained by use of the sound or by introduction of the finger.

§10. I shall divide my work into four parts. The first will deal with the signs that can be obtained from the voice when heard by means of the cylinder (*i.e.*, stethoscope); the second with those furnished by the respiratory sounds; the third with those supplied by râles; and, by way of appendix, the results at which I have arrived in my investigations on the effusion of liquids into the various cavities of the thorax; the fourth will contain an analysis of the heart-beats in health and in sickness, and an account of the special signs characterizing diseases of the heart and aorta.

§11. Before proceeding with my subject I consider it my duty to record the various attempts that I have made to improve upon the exploring instrument I at present use; these attempts have proved almost entirely vain, and, if I mention them, it is in the hope that any other investigator seeking to perfect the instrument will strike out a fresh path.

The first instrument employed by me consisted of a cylinder or roll of paper, sixteen lines in diameter and one foot long, made of three-quarters of a quire of paper rolled very tightly round, and held in position with gummed paper and filed smooth at both ends. However tight the roll may be, there will always remain a tube three or four lines in diameter running up the centre, because the sheets of paper composing it can never be rolled completely on themselves. This fortuitous circumstance gave rise, as will be seen, to an important observation upon my part: I found that for listening to the voice the tube is an indispensable factor. An entirely solid body is the best instrument that can be used for listening to the heart; such instrument would indeed suffice also for hearing respiratory sounds and râles; yet these last two phenomena yield greater intensity of sound if a perforated cylinder is used, hollowed out at one end into a kind of funnel one and a half inches in depth.

§12. The densest bodies are not, as analogy would lead us to suppose, the best materials for constructing these instruments. Glass and metals, apart from their weight and the sensations of cold that they impart in winter are not such good carriers of the heart-beats and the sounds produced by breathing and râles, as are bodies of lesser density. Having noticed this fact, which at first caused me some surprise, I attempted to use the least dense substances possible, and consequently I had a cylinder made of gold-beater's skin, which could be inflated with air by means of a tap while the central space was held open by another tube made of card. This cylinder is the worst of all; it yields less intensity of sound and, as a further drawback, becomes deflated every few minutes, particularly when the air is cold; in addition, it is of all cylinders the one most liable to render audible a sound other than that which is being explored, owing to the crepitation of its own walls and to friction with the patient's clothing or the observer's hand.

§13. Substances of medium density, such as paper, wood and cane, are those which have always appeared to me preferable to all others. This result may be in contradiction with an axiom of physics; none the less I consider it to be quite established.

I consequently employ at the present time a wooden cylinder with a tube three lines (a French line = 0·0888 in. or 2·256 mm.) in diameter bored right down its axis; it is divisible into two parts by means of a screw and is thus more portable. One of the parts is hollowed out at its end into a wide funnel-shaped depression 1½ in. deep leading into the central tube. A cylinder made like this is the instrument most suitable for exploring breath sounds and râles. It is converted into a tube of uniform diameter with thick walls all the way, for exploring the voice and the heart beats, by introducing into the funnel or bell a kind of stopper made of the same wood, fitting it quite closely; this is made fast by means of a small brass tube running through it, entering a certain distance into the tubular space running through the length of the cylinder. This instrument is sufficient for all cases, although, as I have already said, a perfectly solid body might perhaps be better for listening to the beating of the heart.[1]

§14. The dimensions indicated above are not altogether unimportant; if the diameter is larger it is not always possible to apply the stethoscope closely against all points of the chest; if the instrument is longer, it becomes difficult to hold it exactly in place; if it were shorter, the physician would often be obliged to adopt an uncomfortable position, which is to be avoided above all things if he desires to carry out accurate observations.

I shall be careful, when discussing each variety of exploration, to mention the positions which experience has taught me to be most favourable to observation and least tiring for both physician and patient.

Suffice it to say for the moment that in all cases the stethoscope should be held like a pen, and that the hand must be placed quite close to the patient's chest in order to make sure that the instrument is properly applied.

[1] I had not deemed it necessary to devise a name for so simple an instrument; others have thought differently, and I have heard it referred to under various designations, of which all are unsuited and not a few barbarous, e.g., *sonometre, pectoriloque, pectoriloquie, thoraciloque, cornet médical,* etc. I think that if it must be given a name, the most suitable would be *stethoscope.*

§15. The end of the instrument intended to rest on the patient's chest, that is to say the end provided with the stopper, should be very slightly concave, it is then less liable to wobble, and as this concavity is easily filled by the skin it in no case leaves an empty space even when placed on the flattest parts of the chest.

When excessive emaciation has destroyed the pectoral muscles, so as to leave depressions between the ribs so deep that the whole of the surface of the end of the stethoscope cannot rest at the same time on the chest, they may be filled up with lint or with cotton wrapped in linen or a sheet of paper. The same precaution must be taken when it is the heart that is being examined in those patients whose sternum is bent inwards at its lowest end, as often happens with cobblers and some other handicraftsmen.

I have made other modifications in the stethoscope and I have tried various instruments of different shape, but as they cannot be of general use, I shall not speak of them till occasion arises.

§16. Some of the signs obtained by mediate auscultation are very easy to distinguish, and if they have been heard once there will be no difficulty in again recognizing them; such are the signs indicative of cavities in the lungs, considerable hypertrophy of the heart, fistulous communication between the pleural cavity and the bronchi, etc. But there are others that require more study and practice, and for the very reason that this method of examination permits of much greater precision in diagnosis than any other, pains must be taken to use it to the very best advantage.

Laennec habitually called his stethoscope *cylindre* or *bâton;* it is strange that when driven to bestow a technical name he chose stethoscope rather than stethophone; our familiarity with the telephone renders it unnecessary to emphasize that the Greek for to hear, is *φωνεῖν*. It is strange too that though the e in stethoscope is long, we pronounce it short, but in the same way we say "Socrates" for Σωκράτης and "Alexandria' 'for Αλεξάνδρεια—at least so do those of us who are not sufficiently familiar to call it "Alex." Stetho- comes from *στῆθος* chest.

Laennec did not prohibit auscultation through clothing; he would not have joined in the ridicule of the presbyopic physician who listened to his patient's chest through a linseed poultice. He would have enjoyed Guy de Maupassant's charming picture in Mont Oriol of the physical examination which Monsieur le docteur Latonne made of the beautiful Madame Andermatt through her white dressing gown, the dressing gown on which he inscribed with coloured pencils the hieroglyphics which he afterwards transferred to his notebook.

Laennec advised the greatest care in the adjustment of the chest piece lest extraneous sounds be magnified by resonance as happens if it be tilted so as to leave a space between one part of it and the chest wall, a magnification which attains its maximum, at least such is my experience, with the drumming of cicadas.

That he fully appreciated the value of his predecessors is illustrated in the passages following on the last I read:

§17. Mediate auscultation must not, however, lead us to neglect Avenbrugger's[12] method; to which it gives, on the contrary, an entirely new importance, extending its use to numerous maladies in which percussion alone would be of no help or might positively lead to error. Thus it is, by a comparison of the results of both methods, that positive and evident signs can be obtained in emphysema of the lung, pneumothorax and liquid effusions in the pleural cavity. Nor must we neglect other methods of examination that are more limited in their scope, especially Hippocratic succussion, mensuration of the thorax, and even auscultation with the ear directly on the chest or immediate auscultation. These methods which have lapsed into oblivion and are by themselves often as liable to mislead the practitioner as to enlighten him, become in the cases which will be set forth in the present work, useful means of confirming the diagnosis established by mediate auscultation and percussion, and of imparting to it the highest degree of certainty and accuracy that can be obtained in a physical science.

§18. For various reasons it is only in hospitals that a familiarity and thorough skill in the practice of mediate auscultation can be acquired, because it is necessary, at least sometimes, to have the conclusions reached by means of the stethoscope verified by *post mortem* examination, in order that we may acquire confidence in ourselves and in the instrument and that we may have reliance upon our own powers of observation and be convinced by the eye of the accuracy of the signs perceived by the hearing. It is sufficient, however, to have observed a disease on two or three occasions, to learn how to recognize it with certainty; most of the affections of the lungs and heart are so common, that after a week's experience of them in a hospital, all that will be left to be studied are a few rare cases, almost all of which will be encountered in the course of a year, if every patient is examined with care. It would be doubtless imposing too much upon a physician whose whole time is devoted to a private practice to require him to attend a hospital for so long a period; but a hospital physician whose duty it is to carefully examine all his patients daily, can easily save his professional brethren this trouble by informing them whenever he comes upon a rare or specially instructive case.

Pupils flocked to Paris to learn the use of the new instrument from the master himself. One, Sir Charles Scudamore, had a large tragus which blocked his external auditory meatus and the central orifice of the earpiece. To obviate this Laennec hollowed out the earpiece.

The next modification was that of Piorry who reduced the thickness of the stem so as to increase portability.

Dr. C. J. B. Williams added the small trumpet-shaped chestpiece which facilitates application in the supraclavicular fossa, alas so often deeply sunken, and recommended ebony or some other dense wood that would stand frequent washing, such as is required by those few physicians who prefer to remove dirt, even if infectious, before returning their stethoscopes to their pockets.

Later came the monaural flexible and then the binaural flexible, so useful for bedfast patients and the multiaural for demonstrating to students and last the phonendoscope with all the confusing resonance such as Laennec disapproved.

The rigid monaural remains the best for patients who can sit at ease.

The flexible is essential only for self-auscultation.

Laennec being human was not perfect; he overrated the importance of ægophony and in a few instances he fell into actual error. Thus he tells us that pectoriloquy is a true pathognomonic sign of pulmonary phthisis; that the ribs never leave their imprint on hepatized lung; that the breath sounds are absent in pneumonia; that hæmoptysis leaves no trace of affection in the lungs. Evidently, although he well knew the copious hæmoptysis of advanced phthisis, he had not recognized the hæmoptysis of early pulmonary tuberculosis, but attributed it to pulmonary apoplexy.

But what are these few errors in comparison with the overwhelming number of his correct inferences? Alone he observed, named and interpreted all the sounds ordinarily heard in the chest. Even the *crepitatio indux* of pneumonia and the occasional feebleness of breath sounds in robust men did not escape him. In the case too of the heart he described and explained nearly all the sounds; this is why they bear today even in English textbooks French names, though sometimes obscure ones; for example *bruit,* obscure because it is short for *bruit de souffle* and *bruit de diable* because the humming top called *diable* or *diabolo* is out of fashion. Where Laennec's opinion, as that of the cause of the first sound in the normal heart, is disputed, it is not because some other authority has offered a better explanation, but because the cause still remains disputable. No blame attaches to Laennec that others have overrated the value of murmurs in estimating the efficiency of the heart.

The greatest of his successors have joined in a chorus of appreciation. The freshness of his point of view, the importance and wide range of his discoveries make him, says one, the greatest influence on modern medicine. His work, says another, is in fact the foundation of modern clinical medicine. On all hands his epoch-making investigations are acclaimed.

Like some other famous physicians he fell a victim to the disease whose study he had made his own. In young manhood he suffered from a granuloma supposed to be the result of inoculation in the *post mortem* examination of a consumptive.

> The little colour that he had was soon
> Stolen from his cheek; he drooped and pined
> and pined.
> —*Wordsworth, "The Brothers."*

His disease progressed till he presented all the classical features of pulmonary tuberculosis:

> The weariness, the fever, and the fret—
> Where youth grows pale and spectre thin
> and dies
> —*Keat's "Ode to a Nightingale."*

To him if to anyone are applicable the words of Homer. "The physician is the most honourable of men"—

> ἰητρὸς γὰρ ἀνὴρ πολλῶν ἀντάξιος ἄλλων.
> —*Homer, Iliad XI.*, 514.

PRECURSORS OF LAENNEC IN THE DIAGNOSIS OF DISEASES OF THE HEART AND LUNGS.[1]

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THE modern physician, suddenly deprived of his stethoscope, would feel like the mariner in mid-ocean without sextant or compass and would like the early navigator have to grope his way slowly and painfully until, at last, he sighted some familiar landmark.

Yet less than a century has elapsed since the stethoscope became the constant companion of the physician. Now let us seek in the dim aisles of the past for the tiny germs which ultimately led Auenbrugger and Laennec to put the medical profession eternally in their debt.

The recognition of the physical signs of diseases of the lungs and heart is vaguely mentioned in the Ebers Papyrus. Neuburger tells us that acoustic phenomena were not neglected and puts forward the suggestion that the sentence "the ear hears" referred to some form of auscultation.

Again in the works of the Hindu physician, Charaka, who lived about 600 B.C. palpation and percussion are referred to and in his work on medicine mention is made of tuberculous disease. The Hindus like the Chinese had a highly complicated pulse-lore. The proper taking of a pulse by a Chinese physician is a most detailed procedure, requiring in the simplest cases ten minutes, in more difficult ones several hours.

When we come to the Hippocratic writings, we find the first real attempt at physical diagnosis.

In addition to inspection palpation was developed to a marvellous degree by the disciples of Hippocrates. There is no evidence that percussion was used, but immediate auscultation played an important part in the investigation of chest affections. It is thought that the earliest germ of auscultation of the lungs was "succussion" or shaking the thorax with the hands on the patient's shoulders. Succussion was founded as a therapeutic measure originally and was supposed to effect the outflow of pus from the lung by way of the bronchi. Recognition of the splashing sound which occasionally occurred (in pyopneumothorax and hydropneumothorax, but also in bronchiectasis and cavities) led to the employment of succussion (now known as Hippocratic succussion) as a diagnostic method in order to determine whether and where pus was situated in the pleural cavity, also the most suitable spot for incision in thoracocentesis.

The followers of Hippocrates also recognized tracheal rattling, crepitations and pleuritic frictions which latter are described in *"De Morbo"* as "a grinding which sounds as if it came from two leather straps."

These diagnostic methods lay unnoticed for many centuries until Laennec, as Neuburger tells us, "was in part stimulated by the Hippocratic descriptions, whereby dormant seeds of thought from ancient times developed and grew to an undreamt-of height."

Laennec chose for subject of his thesis at graduation, "Suggestions from the Doctrines of Hippocrates Relating to Practical Medicine."

Here we have a splendid reply to the argument put forward by some of the leaders of our profession in Sydney, that the study of the history of medicine is a waste of time.

On the table you will see several editions of Hippocrates in which I have marked most of the passages relating to physical signs noticed by Hippocrates in diseases of the lungs. Among other symptoms described was the condition known to us

[1] Read at a meeting of the Section of Medical History and Literature of the New South Wales Branch of the British Medical Association on October 14, 1926.

as Cheyne-Stokes respiration and we may read how two thousand, two hundred years ago, "Philiscus, who lived by the Wall" took to his bed with an acute fever and as he grew worse and came towards his end, "his respiration was throughout like that of a person recollecting himself, was rare (namely few in number) and large."

We now pass over a period of four hundred years and we come to the next hint of auscultation in a passage in the works of Aretaeus of Cappadox, known as the "Incomparable Aretaeus" who lived between 30 and 90 A.D. Cappadocia was a province of Asia-Minor and the Cappadocians were evidently not popular with their neighbours, the Greeks, for in the anthology we find this couplet:

> A viper bit a Cappadocian's hide;
> But 'twas the viper, not the man, that died.

In his chapter on syncope Aretaeus talks of "a bruit of the heart, pulse small and feeble, with violent palpitation." Laennec tells us that the perusal of the works of Aretaeus gave him another hint which ultimately led to the discovery of auscultation.

Hippocrates held the opinion that the heart could not be diseased, but Aretaeus credits the heart with far greater pathological importance than any previous author and syncope he describes as a cardiac affection. Aretaeus occasionally speaks of a species of tapping of the abdomen with the hand —perhaps a variety of percussion. His descriptions of phthisical patients show the acute observer and are well worth reading in this twentieth century. Let me quote:

> Voice hoarse, neck slightly bent, tender not flexible, somewhat extended; fingers slender, but joints thick, the nails of the fingers crooked, their pulps are shrivelled and flat.

Again:

> The habits most prone to the disease are the slender; those in which the scapulæ protrude like folding doors or like wings; in those which have prominent throats, and those which are pale and have narrow chests.

Aretaeus was superior to most of the superstitions of his time, yet alas even Homer nods. His description of the uterus is most fantastic. Here it is:

> In the middle of the flanks of women lies the womb, a female viscus, closely resembling an animal, for it is moved of itself hither and thither in the flanks, also upwards in a direct line to below the cartilage of the thorax; and also obliquely to the right or left either to the liver or spleen; and it likewise is subject to prolapses downwards and in a word, is altogether erratic. It delights in fragrant smells and advances towards them; and it has an aversion to fetid smells, and flees from them; and on the whole the womb is like an animal within an animal.

William Harvey, the immortal discoverer of the circulation, talks of a pulse which can be heard in the chest, but it is not until 1761, nearly 1,700 years after Aretaeus that Auenbrugger published his great work on percussion.

The physical diagnosis of our day took its origin in the eighteenth century and as the German historian Baas says: "The corner-stone of all modern diagnosis was Auenbrugger's percussion."

Leopold Auenbrugger was born at Graz in Austria in 1722. After studying for some years in his native city he pursued his medical studies in Vienna. For some years he engaged in private practice and obtained a hospital appointment which he accepted in order to be able to carry out his researches. His marriage with a rich and beautiful girl also placed him in an independent position.

His invention was made during his hospital service. For seven years he tested his system of percussion before publishing his great work the *"Inventum Novum"* in 1761. During his lifetime it remained unnoticed, misunderstood and even designedly opposed and the leader of the Vienna School at that time, De Haen, was the leader of the opposition. Auenbrugger foresaw opposition. He says:

> I have very well foreseen that I shall meet with great opposition as soon as I have published my invention, for envy, malevolence, hatred, jealous disparagement and even slander have never been wanting to men who have either glorified or perfected the sciences and arts by their discoveries.

How true these words are. The way of the innovator in the medical profession is hard and the history of our profession tells us only too plainly that most of the opposition comes from within.

Auenbrugger's discovery was based on the simple observation that "the chest of the healthy man resounds when it is percussed." He tested this idea for seven years and then introduced his great book with the following words:

> I lay before you, benevolent reader, a new sign for the elucidation of the diseases of the chest, discovered by me. This consists in the percussion of the human thorax, by the varying resonance of whose tones a judgment may be formed as to the internal condition of this part. . . . I have written what I have again and again proved by the testimony of the senses with much labour and fatigue; nor have I ever given place therein to seducing self-love.

He concludes his book by saying:

> May what I have written conduce to the comfort of the unfortunate sick, and to the advantage of true cultivators of the medical art; such is my desire.

Fortunately Auenbrugger was of an equable temperament and, finding that his invention was not accepted, he did not become embittered, but devoted himself to music and the arts and wrote an opera called "The Chimney Sweeps." He lived to a ripe old age and died in 1809 aged 87.

The credit for the recognition of the great discovery of Auenbrugger rests with a great French physician Jean Nicholas Corvisart, a native of Dricourt in Champagne.

In 1808 he translated Auenbrugger's treatise into French and gave all the prestige of his own position to maintaining the priority of Auenbrugger. He says in his translation:

> I know very well how little reputation is allotted to translators and commentators, and I might easily have elevated myself to the rank of an author, if I had elaborated anew the doctrine of Auenbrugger and published an independent work on percussion. In this way, however, I should have sacrificed the name of Auenbrugger to my own vanity, a thing which I am unwilling to do. It is he, and the beautiful invention which of right belongs to him, that I desire to recall to life.

Corvisart came to Paris and studied under Vicq d'Azyr, Portal, Petit, Louis and other leading

teachers of the day. He became one of the physicians of Napoleon who in this appointment gave evidence of his proverbial insight into practical capacity and greatness of character. Corvisart was faithful to Napoleon through all his vicissitudes and after Napoleon's death declined all public offices. Perhaps I may quote an anecdote which illustrates Corvisart's independence of character. Soon after the birth of Napoleon's son, the King of Rome, Corvisart in conversation with the Emperor, exclaimed:

> Sire, this prince must crown all your wishes! Recall your career: In less than ten years a simple officer of artillery, then captain, general of brigade, general-in-chief, First Consul, Emperor, spouse of an arch-duchess of Austria, father of a prince. Having reached so dizzy a height of fortune, rarely attained by any mortal, I beg your majesty to stop. Fortune may turn; you may yet fall.

"That I call the speech of a genuine peasant" said Napoleon, yet his opinion of Corvisart was expressed as follows: "He is an honest and able man, but a little rude."

Corvisart's chief work was "Essay on the Maladies and organic Lesions of the Heart and great Vessels," which was first published in 1808. Corvisart was the teacher of the great French physicians Bayle, Laennec and Dupuytren and exercised a far-reaching influence on the medicine of his time. He died of a disease of the heart in 1821.

Of Laennec, the great pupil of Corvisart, you have already heard tonight and I will pass on and say a few words about some of the men who helped to popularize among the profession the inventions of Auenbrugger and Laennec.

Of Pierre Charles Alexandre Louis, Osler has given us a vivid picture in his charming essay. He was the logical successor of Laennec. A great teacher and was renowned for his integrity and honesty of observation. His motto was: "To observe well, we must not observe hastily" and so he spent three to five hours daily in the hospital wards and in the *post mortem* room. His was a mathematical mind and his writings are compilations of minute observations. Louis was the first clinician who counted the pulse as a routine procedure. In 1825 he published his "Anatomical Researches on Phthisis." Of this work Osler says:

> I do not know of any single work on pulmonary tuberculosis which can be studied with greater profit to-day by the young physician.

The great successor of Auenbrugger as an exponent of the art of percussion was the Frenchman, Pierre Piorry, who in 1826 invented the pleximeter for the practice of mediate percussion. He was a man of fertile brain who invented many new names for diseases, most of which have not outlived him.

The influence of the work of Laennec and Auenbrugger was felt at this period all over the world and two of the leading exponents of these new methods were the two Irishmen, Robert James Graves and William Stokes.

Graves has been said to have bridged the impassable gulf which before his time lay between the student and teacher. To us he is known by his description of exophthalmic goître. Personally he was a man of great natural wit and it is related of him that while on a visit to Rome, he was much annoyed by vermin that infested the beds. He remarked:

> A certain friend of mine was so tormented by their bites that when visiting the Capitol he flung, in a fit of rage, thirty of the ringleaders headlong down the Tarpeian rock.

Again when inveighing at the then system, or rather lack of system, in the training of students, he said:

> Often have I regretted that under the present system, experience is only to be acquired at a considerable expense of human life. The victims selected for this sacrifice at the shrine of experience generally belong to the poorer classes of society, and their immolation is never long delayed when a successful candidate for a dispensary commences the discharge of his duty.

William Stokes founded his life work on the following aphorism:

> If you would advance knowledge, be content to take up the thread where the last investigator laid it down, and set yourself to carry on his work.

Stokes did more for the advancement of physical diagnosis of the diseases of the heart and lungs than any other man of his time. He was the great advocate of the use of the stethoscope and it was largely through his teaching that the new instrument came into general use in Great Britain. Stokes was the first to suggest the use of the finger as a plexímeter in percussion. Let me close my remarks on this great man by quoting his opinion of the optimism of tuberculous patients.

> The destruction of the lung causes a relief to the patient and too often may we hear the voice of hope and confidence reverberating in the cavity which seals the patient's doom.

Many other great names might be mentioned, but time will not allow, but a few words may be allotted to Josef Skoda, who brought to bear his knowledge of acoustics and music on the problems of medicine. Skoda looked on mankind as a subject for diagnosis and when asked on one occasion after seeing a patient, what treatment he advised, replied *"Ach, das ist ja alles eins"*—Oh, that is immaterial.

Skoda loved to study what he called the "natural course of disease undisturbed by therapeutics."

This concludes what I have to say and I would now like to show you some portrait slides of the men who have slowly and laboriously made the discoveries which have enabled us to diagnose diseases of the heart and lungs and who have cast some rays of light into the darkness, so that perhaps we need not say as did that physician in the early days of last century, when asked why he was retiring from practice. His reply was that he was tired of guessing.

LEPROSY PROBLEMS.

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I FEEL myself under an obligation to comment upon the paper read by Dr. Molesworth upon leprosy in Australia, yet it is not without a great deal of diffidence that I attempt to do so. While I

feel that the arguments advanced by him to show that racial immunity is a sufficient safeguard against leprosy to the British community here are fundamentally unsound, I find it difficult effectively to counter them without appearing to attempt the discredit of his valuable work. Actually, nothing is further from my intention. On many points we are in agreement, particularly in that we both advocate the alleviation of the distress attendant upon forcible segregation of the afflicted. I believe, nevertheless, that Dr. Molesworth has committed an error of judgement in concluding that leprosy does not constitute a menace to the European population of Australia. This error, moreover, I believe to be due to the fact that he has permitted himself a licence to which he was not entitled, in interpreting evidence collected in a non-endemic area. Such ardour it must be admitted has not been without parallel in the advocates of strict anti-leprosy measures, but it is doubtful upon which side it constitutes the graver error.

I agree with the writer that elimination of the susceptible is a real factor in the production of a relative racial immunity. This concept is not new and has been used to explain the early virulence of infection in the Pacific Islands and its subsequent decline after a phenomenally extensive dissemination. But that this factor alone can have been responsible for the decline in Europe and more particularly in Britain is not apparent from the examples chosen by Dr. Molesworth for the elaboration of his point. One would have supposed, were it so that in India and China where the malady has raged longest unrestricted by any prophylactic measure, a much greater racial immunity would now be apparent than is found in those European countries where its appearance was much later and its course of comparatively short duration. Moreover, even in Europe the disease is still prevalent in those countries where the advance of civilized hygiene, personal and civic, has been tardy. According to Ivanow and Mamouw 1,026 lepers were reported in certain limited areas of European Russia between the years 1902 and 1909; according to Awide and Mendoza in Spain there are not less than 1,500 lepers, mainly in the Provinces of Galicia, Valencia and Andalusia.

In any event a comparison of the incidence of leprosy in Australians of European race with its incidence in coloured races must take cognizance of the fact that in Australia the sources of infection are as yet comparatively few and have been promptly isolated when recognized, whilst in the Pacific Islands (for example) the sources of infection are multitudinous and until recently at any rate were free to move indefinitely amongst the general population. The development of the argument as to the incidence of leprosy in Australian whites, furthermore, is most confused and largely on this account no doubt has Dr. Molesworth succeeded in lulling himself and his auditors into a false sense of security. It is patently erroneous to gauge the incidence of leprosy in Australia by correlating the number of infections with the total population of the continent. And yet it would appear that his case against segregation is largely based upon the assertion that in Australia only sixty-six European lepers are known amongst a total population of six millions, whereas one hundred and forty-nine were found amongst the coloured population of under one hundred thousand.

In this latter connexion it must not be overlooked that leprosy was introduced by coloured aliens and for a considerable period had unlimited opportunities of becoming endemic amongst both them and the aborigines with whom they associated, whereas the lack of any disposition towards interracial intercourse which is a feature of Australian national character, has been a potent factor in protecting the whites in areas from which many coloured lepers have been reported. When, moreover, leprosy appeared in the white sufficiently frequently to attract attention, prompt and severe prophylactic precautions were taken to prevent its further dissemination. It cannot be gainsaid that these factors have exerted an important influence in determining a heavy relative incidence in coloured races no less effective than an admitted predisposition.

Furthermore the bulk of the coloured population has been imported to or is resident in tropical Australia, while the greater part of the white population is in the more temperate southern portion. The races are not proportionately exposed to infection, the white race being chiefly distributed in non-endemic areas, while coloured races are found principally in localities favourable to the dissemination of infection and in comparatively frequent association with infected persons.

In assessing the incidence in whites, no attention has been paid to this important point. No step has been taken to eliminate that great proportion of our population which for various reasons (residence in an unsuitable environment or in one to which the malady has never been adequately introduced) has never been exposed to infection by contagion. It has been assumed that all citizens of the Commonwealth have been equally exposed and we are seriously asked to believe that the European population of Victoria has escaped infection by reason of the existence of a racial immunity in British stock, while in the State of Queensland where there is but half the population, leprosy is known to be endemic in whites. That in reality the possibilities of dissemination amongst whites are much more serious than Dr. Molesworth would lead us to believe, is indicated by the fact that at Mount Morgan and Rockhampton the incidence is not less than one *per mille* and yet it is certain that in consequence of the operation of the *Leprosy Act* not one-quarter of the population of those centres has been exposed to leprosy. From the Northern Territory where there are less than a thousand persons of European descent living in endemic areas six white lepers have been reported in the last few years without any special effort having been made to determine the number actually in existence. Admittedly leprosy is rare in Australia at the present time, but it is not incapable of alarming dis-

semination if permitted the licence advocated by Dr. Molesworth.

It is lamentable to see raised again the question of the relative incidence and comparative prophylactic methods directed against leprosy on the one hand and tuberculosis and syphilis on the other. Are the prevalence of the latter afflictions and our incapacity to deal with them cogent reasons why we should deliberately add to the suffering of our people by permitting the unlimited dissemination of yet another plague more particularly when we know this one may be readily controlled. Leprosy once prevalent in New South Wales as an endemic disease is now virtually extinct. Indeed this is the explanation on the one hand of that very absence of severe cases from Little Bay upon which Dr. Molesworth lays such stress, and on the other of the fact that Dr. Molesworth's own patients as far as we are informed of them may be regarded as importations from other States and countries. No one can for one moment believe that the brief New South Wales outbreak exhausted the possibilities of the non-immune population. Leprosy is no longer a problem in New South Wales because adequate steps were taken by notification and isolation to eradicate it. On the other hand it persists in Queensland because these steps though properly devised are imperfectly administered. Dr. Carlos Chagas in his report to the Health Committee of the League of Nations states: "This disease (leprosy) is prevalent upon a vast area of the globe; in certain countries it has an acutely endemic character and threatens to spread from its present centres to areas which have hitherto been immune." Marchoux reporting upon leprosy in France says the disease is dying out and may be expected finally to disappear: "always provided the increasingly numerous importations from abroad do not revive its activity in moribund endemic centres and lead to the infection of new ones." Prophylaxis against leprosy has been proved successful time and again in Australia and cessation of effort in this direction now would be a national calamity.

I believe I am not less solicitous for the amelioration of the leper's lot than is Dr. Molesworth, yet I cannot admit that there is any justification for permitting the unfortunates now afflicted unrestricted liberty to broadcast their infection to the misery of others. I believe the solution of the problem lies in the provision of extensive and adequately equipped leprosaria in non-endemic areas. Without these efficient specialized treatment will be impossible and I am not to be convinced that, given sufficient elaborate and comfortable accommodation, compulsion is not an advantage to the patient himself. Dr. Molesworth himself mentions the necessity of pressing specific treatment to the point of unpleasant and sometimes dangerous reaction. All who have had any experience of the treatment of lepers in lazarets, have found that the necessity for this reaction is the commonest cause of the patient refusing treatment. Without compulsory segregation continuous and effective treatment of lepers would be impossible. Continuance of the present system in Queensland is absolutely necessary, but it is admittedly highly desirable that a prompt and genuine effort be made:

(*a*) To hasten the successful termination of the system by a thorough investigation into the incidence of the disease for the purpose of insuring the isolation of all patients deemed infective;

(*b*) To ameliorate the condition of those isolated by the provision of improved lazarets and inaugurating a system of leave parole for patients who have responded to treatment;

(*c*) To provide for the outdoor treatment of lepers found in non-infective stages and for the regular reexamination of contacts and discharged persons.

I trust I have succeeded in demonstrating the fallacies of Dr. Molesworth's arguments against compulsory notification and isolation and in pointing the necessity for continuance upon an improved system, particularly as I believe some degree of compulsion is not incompatible with the patient's best interests.

Reports of Cases.

PERISINUS ABSCESS.[1]

By E. P. BLASHKI, M.C., M.B., Ch.M. (Sydney),
Honorary Assistant Surgeon to Diseases of the Ear, Nose and Throat, The Royal North Shore Hospital of Sydney.

A MALE patient, aged thirty-one years, a clerk, was admitted to hospital on July 26, 1926, complaining of a discharge from the right ear. His temperature was 39·3° C. (102·8° F.) and his pulse rate was 116 in the minute.

For three days before admission he had complained of pain in the right temporal region and behind the ear. He had had several shivering attacks. He had vomited, but had not complained of vertigo. His throat felt sore.

On examination slight tenderness was discovered over the mastoid on the right side, but no œdema was present. Hearing was diminished. Weber's test was lateralized to the right side. The response to the Rinné test on the right side was "negative." A large perforation of the drum, filled with cholesteatoma, was found. A provisional diagnosis of lateral sinus thrombosis was made.

Immediate operation was carried out under ether anæsthesia. The mastoid bone was found to be sclerotic except for one or two cells in the attic region which contained pus. Eradication of these cells led to the exposure of the *dura mater* of the middle fossa. No change was seen in the dura. Cholesteatomatous material was removed from the middle ear and the antrum and the usual radical mastoid operation was completed. As the bone disease did not lead to the lateral sinus, it was not exposed at the operation. On the following day, July 27, the temperature was 37·0° C. (98·6° F.) and the pulse rate was 100 in the minute. There were no more rigors.

On July 28, 1926, the temperature rose to 37·5° C. (99·6° F.) in the morning and the dressing was changed. It was found to be very foul. This resulted in a fall of temperature to 36·9° C. (98·4° F.), but only for a short period. Blood culture revealed the presence of *Staphylococcus albus*. As a result of a rise in temperature a second operation was undertaken on July 30. Under ether anæsthesia the wound was opened up and it was found that the bone over the lateral sinus was black over an area about one millimetre in diameter. The sinus canal was opened up and was found to be full of pus. The opening was extended until it was five millimetres in diameter and it was seen that the sinus was quite collapsed and

[1] The patient described herein was shown at a meeting of the New South Wales Branch of the British Medical Association on September 9, 1926.

empty and bathed in pus. A temporary dressing was applied to the wound and the internal jugular vein was ligated; the common facial vein was also ligated and divided. The opening over the lateral sinus was now enlarged and freed. Before healthy looking sinus wall was reached, it was necessary to open the canal from the knee above to the jugular bulb below. When the upper angle was approached the sinus suddenly freed itself and became filled with blood, apparently by the dislodgement of a thrombus in that region. As the sinus was now filled with blood, it was not opened, but the usual dressings were applied.

On the following day his temperature did not go above 37·2° C. (99° F.) and from then on the patient followed an unremarkable course and was allowed to go home on September 1, 1926. However, after being home for one day he returned and complained that he had had a chilly feeling. His temperature was 37·2° C. (99° F.) and he had a slight sore throat. In addition his pulse was rather variable and rapid. He was seen by Dr. F. Guy Griffiths who reported that he could find no heart lesion.

Comment.

There are two points which call for notice.

The first, as to the necessity of ligating the jugular vein, has already been freely debated. I think that in this case at least the ligature has undoubtedly prevented a thrombus from passing into the general circulation and causing embolism and infarction.

The second point concerns the reason for not opening the sinus canal at the first operation. I acted on the idea that it would be unwise since, if I exposed the sinus and it was healthy, it might lead to a sinus thrombosis, but as there did not appear to be any bony necrosis over the sinus, it was to better to wait knife in hand.

A CASE OF HYDATID DISEASE OF THE LIVER WITH OBSTRUCTION OF THE COMMON BILE DUCT BY A DAUGHTER CYST.

By F. C. BURKE-GAFFNEY, M.B. (Sydney),
Honorary Outdoor Surgeon to the Bendigo Hospital, Bendigo, Victoria.

ON September 15, 1926, Mrs. N., aged twenty-eight years, was brought down to Bendigo from Barapoort suffering from great pain in the upper part of the abdomen with nausea and vomiting. She was extremely jaundiced with a temperature of 37·2° C. (99° F.) and a pulse rate of 100. The systolic blood pressure was 110 and the diastolic pressure 80 millimetres of mercury. She has lived all her life in sheep country, her father and husband being sheep farmers. Her history is one of indigestion and occasional epigastric pain for about twelve months, but these symptoms have been worse and more frequent lately. The jaundice had been noticed only for a few days previous to her arrival here. She gave birth to a healthy baby four months ago without trouble.

On examination I found a rather thin subject, very jaundiced and very tender across the upper part of the abdomen. There was a firm, round mass extending for about seven and a half centimetres (three inches) below the ribs in the right hypochondrium. I took this to be a hydatid cyst of the liver. The jaundice was thought to be caused either by pressure of the cyst on the common bile duct or, as she had great pain and distress, by a stone in this duct.

An X ray picture taken at the Health Laboratory, revealed no abnormality and no shadows of gall stones, but Dr. McIntosh obtained a reaction to the Casoni test and a definite eosinophilia in the blood film.

At operation through the right rectus the liver was found well down with a large, thick walled gall bladder which was densely adherent to the surrounding structures. Aspiration and incision of the gall bladder disclosed thick, dark bile, but no stones. No cyst could be found in the exposed right lobe so I dissected down and saw a very distended common duct aspiration of which gave clear fluid. The duct subsided and on incision the skin of a cyst was extracted about the size, when full, of a large bottle marble. A probe was passed up and down the duct and a rubber tube inserted. The left lobe was then examined and a huge cyst found occupying most of that lobe; the wall of this came to the surface of the liver too far to the left to allow its drainage from the existing incision. This incision was closed and another was made at the outer edge of the left rectus just below the ribs; this gave access and the cyst wall which was about three millimetres (one-eighth of an inch) thick. The cyst wall was sewn to the wound edges and opened. There was very little fluid in the cyst, but dozens of daughter cysts ranging in size from that of a round hen's egg to a sago particle. It was impossible to detach the true cyst wall from the fibrous capsule so a large calibre tube was inserted. For a week more bile drained through this large tube than through the tubes in the common duct and gall bladder. This is now reversed, practically no bile coming through the cyst tube.

The patient is now (October 1, 1926) progressing well. The jaundice has cleared up, she has no pain, is eating and sleeping well. The tubes have been removed and there is very little drainage.

The immediate prognosis is good. The ultimate outlook is not clear to me; perhaps Mr. Harold Dew could help me with his wide and scientific knowledge of hydatids.

The points of interest in this case are:

1. The jaundice, not common in hydatids, caused by the blocking of the common bile duct by a daughter cyst which must have at an early stage burst through the cyst wall into one of the hepatic ducts migrating down to the common duct where it grew till it caused obstruction.
2. The size of the cyst and the thickness of its wall show that it must have been there a considerable time before giving rise to symptoms.
3. The patient went through a confinement but four months before her operation without trouble with such a tremendous cyst in her liver.

Reviews.

A TREATISE ON SURGICAL PRINCIPLES.

The object of "An Introduction to Surgery," by Rutherford Morison and Saint, is stated to be to aid the student in thinking out the problems presented to him both in the wards and in his textbooks.[1] In fact it is a treatise on general principles. Detailed facts must be learned in other ways. It is not only the student, however, who may find value in this book, for it may indeed cause a qualm of conscience or possibly even a sense of having some time in the past been guilty of remission to even a most experienced and progressive surgeon. The book is profusely illustrated with most interesting and clear representations, as examples of innumerable surgical diseases, both those frequently encountered and others most rare. They form a fascinating collection of surgical pictures and the reader is led on by them from one subject to the next until he suddenly becomes aware that he has dipped into the very essence of the whole gamut of surgery. The description of such a commonplace textbook disease as pyæmia is at once so full of simple common sense and yet of such profound knowledge that it alone reveals the master mind which pervades the whole book. There are many aphorisms scattered through the text which tend to make the reading lighter; for example: "Be careful with each urethra until you know it." As an example of personal observation, the authors state that the peritoneum is rendered more resistant to sepsis by a previous operation but less so to cancer.

Speaking of colotomy the last words in this book are: "There is no reason or even excuse for this fashionable and disappointing operation so often advocated for ordinary cases."

There are only three hundred odd pages and it can truthfully be said that not one is without its special interest.

[1] "An Introduction to Surgery," by Rutherford Morison, M.D., F.R.C.S. (Edinburgh), F.R.C.S. (England), M.A., D.C.L., LL.D. and Charles F. M. Saint, C.B.E., M.D., M.S., F.R.C.S. (England); Second Edition; 1925. Bristol: John Wright and Sons, Limited. Demy 8vo., pp. 347, with illustrations. Price: 15s. net.

The Medical Journal of Australia

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The Branches of the Association.

THE Branches of the British Medical Association in Australia have manifested a tendency during recent years to extend the scope of their activity in various directions. The action of the Representative Body in 1922 in amending the Articles and By-laws of the Association to enable overseas Branches to become incorporated under the local enactments without loss of the rights and privileges of Branches has placed in their hands a means of acquiring far greater autonomy than any integral part of the Association in Great Britain can enjoy. The Queensland Branch has become incorporated under the *Companies Act* of Queensland and is now competent to carry out any or all of the functions of the parent body. The New South Wales and the Western Australian Branches are taking steps to alter their existing Memoranda and Articles of Association to conform with the Memorandum and Articles of Association as prescribed by the Representative Body for corporate Branches. The other Branches in Australia have the matter under consideration.

Article 11*a* empowers an overseas Branch of the British Medical Association to become incorporated under the law in force in the area of the Branch under a name indicating that the body is a Branch of the Association. It has been the habit of the Branches in Australia to style themselves the "British Medical Association" and to append to this title the name of the Branch. This habit leads to confusion. In effect it gives to an integral part, a unit, the name of the whole body. A resolution of the British Medical Association is binding on its Branches, but a resolution of a Branch affects no one outside the area of that Branch. This matter is of some importance, since the constitution of the British Medical Association provides for the government of the Association to be in the hands of the Representative Body, a body composed of representatives of the Divisions. Certain matters must be referred to general meetings of the members after having been accepted by the Representative Body. The voting at the Representative Meetings may be by "card vote" according to which each Representative registers as many votes as there are members in his Division. It thus appears that under ordinary circumstances the Divisions are the units of the Association, although exceptionally the individual members become the units. The Branches in Australia are Branch-Divisions and are in consequence bodies entitled to one vote each at the Representative Meetings. Even the corporate Branches are not endowed with greater powers than any other Division, no matter how small, in connexion with the determination of the policy of the Association. There are three hundred and twenty-four units or Divisions. Moreover, a corporate Branch, notwithstanding its local autonomy, may be dissolved by resolution of the Council. The adoption of the term "British Medical Association" by a Branch should therefore be avoided.

The Association is incorporated under the *Companies Acts* as a company "not for profit." It cannot engage in trade of any kind. This means that the British Medical Association or its Branches cannot act as medical agents nor can they undertake insurance work. The desire has been expressed both in Great Britain and in Australia on many occasions that both these activities should be in the hands of the medical profession. As is now well known, *The British Medical Journal* and *The Lancet* formed a committee in 1907 for the purpose of establishing a medical insurance agency which has proved a great boon to the members of the medical profession and incidentally the source of considerable revenue to medical benevolent institutions. Many of the Branches in Australia have adopted expedients whereby the medical agency work, the intermediation between vendors and purchasers of practices and partnerships and between principals and *locum tenentes,* could be conducted on behalf of the medical profession. The Branches cannot do this work, but they can make arrangements for it to be undertaken by some person or persons or organization closely connected with them. A com-

pany has recently been formed under the ægis of the Victorian Branch to effect insurances for medical practitioners. This company has adopted the title of "The British Medical Insurance Company of Victoria, Limited," a title indicating its close relationship with the Victorian Branch of the British Medical Association. In Great Britain the name "British Medical" was deliberately avoided.

The several Branches of the British Medical Association in Australia have sought to exploit constitutional means for the better discharge of their avowed functions. Sections devoted to special branches of medical science have been formed and have proved themselves to be admirable instruments for the furtherance of medical knowledge. It is recognized that it is preferable to form sections of the Branches to deal with special work rather than to encourage the institution of independent societies. A section of a Branch is an asset for the whole mass of members, while a detached society serves its own members exclusively. The sections are ancillary and supplementary to the Branch and the machinery is ready for the coordination of any two or more sections of the Branch. As far as this journal is concerned the records of the meetings of sections take precedence next to the records of the meetings of the Branches themselves over all other medical or scientific societies.

Current Comment.

GLYCOSURIA.

ONE of the most difficult clinical problems connected with *diabetes mellitus* is the differentiation between this disease and glycosuria of a benign nature. The older teaching, based on very careful clinical observation and much ingenious chemical study, embraced the recognition of alimentary or functional glycosuria, the prognosis of which was regarded as favourable. This view has been challenged in recent years by several competent investigators. S. Hansen has endeavoured to prove that the mildest forms of glycosuria with a few possible exceptions are caused by slight changes in the islands of Langerhans. His arguments seem to be weakened by the necessity of postulating that these defects are either structural or functional. It is significant that every physician discovers from time to time a mild glycosuria without symptoms in a patient who remains in good health. Often the glycosuria is transitory and appears to be associated with some disturbance of digestion. In order to arrive at a satisfactory conclusion concerning the relations of the two conditions, it is necessary to define *diabetes mellitus*. Thirty-seven years ago von Mering and Minkowski demonstrated that the removal of a substantial amount of pancreatic tissue in dogs and other animals led to a condition indistinguishable from diabetes. The frequent causal relationship between acute pancreatitis and diabetes had been noted many years before. It is accepted by all that in true diabetes there is hyperglycæmia. For practical purposes *diabetes mellitus* may be defined as a disease which runs a fatal course if untreated, which is characterized by all the signs of a disturbance of glucose metabolism, including excessive thirst, polyuria, glycosuria, hyperglycæmia, muscular weakness, emaciation, a tendency to acidosis and a diminution of resistance toward infective disease, and which is attributed to a lesion in the islands of Langerhans. There are one or two objections in this definition. In the first place some observations have been recorded of undoubted diabetes in which the fasting sugar content of the blood returned from time to time to a normal level. In the next place it would exclude mild illnesses which tend to spontaneous cure, due to slight pancreatic lesions and characterized by glycosuria and irregular hyperglycæmia. If true diabetes is defined as a disturbance of sugar metabolism caused by a structural change in the islet tissue of the pancreas, there would be a difficulty in establishing a clinical criterion.

Professor J. E. Holst, of Copenhagen, has recently given some valuable information concerning the occurrence of what he terms benign glycosuria in members of families in which diabetes occurs.[1] He points out that the first report of the occurrence of mild glycosuria and true diabetes in members of the same family was published by Garrod in 1913. Professor Holst regards the condition as benign glycosuria if the blood sugar content during fasting is normal without antecedent treatment and no symptoms of diabetes are present. In dealing with the question whether or not heredity plays a part in the production of diabetes, he stumbles against difficulties at the outset. The protagonists of the hypothesis that the occurrence of diabetes in several members of a family is dependent on heredity are not at one as to whether there is a single dominant factor or several factors. Further evidence is necessary before a definite conclusion on this point can be reached. Professor Holst has compiled the genealogical trees of eleven families and provides all the data he has been able to gather concerning the members of these families who have had sugar in their urine. In one family there were three members of one generation. Two of the three, a boy and a girl, had died at the age of eleven of diabetic coma. At the age of twenty-four the brother had slight glycosuria without any disturbance of his health. The glucose had been detected in his urine nine years previously. The

[1] *Archives of Internal Medicine*, September, 1926.

sugar content of his blood when fasting was 0·086 milligramme per hundred cubic centimetres. After the administration of 52·5 grammes of glucose, it rose to 0·189 milligramme, but an hour and three-quarters later it had returned to 0·088 milligramme. In another family a man had died of diabetes; his brother had been treated in 1915 for glycosuria, thirst, polyuria and other diabetic symptoms. It was uncertain whether his affection was diabetes or "benign" glycosuria. He had remained well. His two children, both girls, had glycosuria. Sugar had been found in the urine of the one only once. In the other girl there were symptoms of mild diabetes. On a few occasions acetone and diacetic acid were discovered in the urine and the patient was dull and drowsy. These symptoms, however, disappeared within a short time without special treatment. The sugar content of the blood rose moderately after the administration of glucose, but returned to normal within two hours. She was treated dietetically at irregular intervals, but her health was good, save during her periodical attacks. In other families the glycosuric members were in successive generations or in collateral branches. The eleventh family consisted of twelve members of two generations. A man and his sister had died of diabetes. Their sister was healthy. She married a man who had had glycosuria without subjective symptoms for about twenty years. Their daughter had symptoms of glycosuria for some years. The husband had two brothers and one sister. All had glycosuria. One of the brothers is said to have had severe symptoms at the age of eighteen, twenty-nine years previously. He was well when examined. The sister married a healthy man and one of the three children had mild glycosuria. Professor Holst states that he has observed several other families in which more than one member had glycosuria, but he refrained from including these families in his list because there were too many gaps in the records. He is not prepared to regard this association as fortuitous. He does not favour the view that these benign forms of glycosuria are merely mild forms of true diabetes. It is very uncommon for the condition to pass from the mild into the severe form which would of necessity occur if all these conditions were of one nature, that is if they were all diabetes of varying intensity. He is inclined to the opinion that the inherited factor leading to the appearance of glycosuria is but one of many factors contributing to the ætiology of diabetes.

While the information given by Professor Holst is not unique, it must be accepted as presumptive evidence in favour of the inheritance of some form of vulnerability of the pancreatic tissue. If this view be accepted, it would be very difficult indeed to argue logically that benign glycosuria and *diabetes mellitus* are entirely separate conditions. The common factor would appear to be a defect in the pancreas. Provided that the pancreas is not further injured by an infective process or by some traumatic agent, the common factor would give rise to symptomless glycosuria. It requires the elimination of a large proportion of the islet tissue before true diabetes will manifest itself.

PASSIVE HYPERSENSIBILITY IN TUBERCULOSIS.

THE biological tests of tuberculosis have not proved altogether satisfactory. It is generally admitted that the subcutaneous tuberculin test is too delicate. Apart from the question of its actual specificity, a reaction to a subcutaneous injection of tuberculin is often an indication of the presence of tubercle bacilli within the body of the host and not of an existing tuberculous infection. Persons who have been infected and whose resistance has sufficed to overcome the infection, may react to tuberculin years after the last manifestation of tuberculosis has disappeared. The von Pirquet reaction has a clinical significance only in young children. The ophthalmo-reaction of Calmette is also too delicate and is not devoid of risk. The agglutination reaction of Courmont and Arloing was shown in 1901 to be unreliable as a diagnostic agent. The serum of persons in the advanced stages of the disease failed to cause clumping of a homogeneous suspension of tubercle bacilli, while the serum of those who were clinically free from tuberculosis, often gave rise to intense agglutination. The complement fixation tests have not proved acceptable as diagnostic methods.

During the past twelve or thirteen years many attempts have been made to determine the specificity of the phenomena of hypersensibility to the products of tubercle bacilli. Professor C. Schilling and Dr. Hermann Hackenthal have recently carried out some interesting work in connexion with this form of anaphylaxis.[1] In previous publications they recorded the results of experiments demonstrating that the unstriped muscle of the intestine of guinea pigs becomes hypersensitive to the water soluble products of tubercle bacilli nine days after infection with tubercle bacilli. They have continued their researches and have found that this hypersensibility may be communicated to normal guinea pigs. The serum of tuberculous guinea pigs eleven days after infection was injected into normal animals. These animals were found to be hypersensitive within twenty-four hours of the injection. They have employed the method described by Schultz and Dale with slight modifications. In the next place they found that if twenty milligrammes of tubercle bacilli be injected subcutaneously into guinea pigs, an immediate reaction can be elicited by means of the Schultz-Dale method in a large proportion of experiments. Finally that they have succeeded in producing passive hypersensibility with the serum of tuberculous subjects. It is true that they were successful with only twelve out of forty-two samples of serum of persons suffering from tuberculosis. The details given suffice to establish the fact that guinea pigs can be rendered hypersensitive to aqueous extracts of tubercle bacilli by the injection of the serum of tuberculous patients. Whether this method will prove to be of diagnostic significance or not must depend on the causes of failure in their series. Evidence is required whether the serum of a tuberculous person with indefinite signs and symptoms is capable of inducing passive anaphylaxis in a normal guinea pig of a specific nature.

[1] *Deutsche Medizinische Wochenschrift*, August 13, 1926.

Abstracts from Current Medical Literature.

MORBID ANATOMY.

Fragmentation of Red Blood Cells.

CHARLES A. DOAN AND FLORENCE SABIN (*The Journal of Experimental Medicine*, June, 1926) in their discussion of phagocytosis of fragmented red blood cells point out that Rous and Robertson in 1917 demonstrated that there is a constant fragmentation of red cells in the circulating blood. This fragmentation is also increased in anæmia and by heat and pressure. In rabbits in the process of fragmentation the red cell puts out a long process and becomes the so-called poikilocyte. Vibration of the process ensues and it eventually becomes separated. If the blood of patients suffering from pernicious anæmia is examined, it is seen that the action stops short at separation of the long process. In the blood of rabbits suffering from tuberculosis there are large numbers of endothelial cells and monocytes, while the eosinophile cells are decreased or absent. With the technique of Sato and Sekiya the peroxidase reaction gives clear cut results and the endothelial cells are distinguished by their filmy cytoplasm and characteristic nuclei and in part by their shape. Clasmatocytes which are filled with fragments of red cells. do not answer to this test and the conclusion has been reached that the desquamated endothelial cells are in part degenerating types, but also in part actively functioning cells.

Valvular Endocarditis.

B. J. CLAWSON, E. T. BELL AND T. B. HARTZELL (*The American Journal of Pathology*, May, 1926) have investigated valvular diseases of the heart with a view to ascertain the course of events in the development of old valvular defects. Vegetations in acute rheumatic endocarditis are usually present at some little distance from the free edge of the leaflets, but the free edge is also involved and often the greater part of the valve. It is this fact that explains the uniform thickening seen in old, sclerosed valves. In the microscopic preparations of the vegetations fibroblasts form the chief elements. In the process of healing the vegetations become converted into fibrous tissue, without ulceration and without organization. Fifty-five specimens in a total of seventy-seven of old defective valves were considered to be due to rheumatic endocarditis. Acute bacterial endocarditis is a more intense inflammatory process and while proliferation predominates, exudation may often be prominent. Large thrombi are formed on the raw surfaces and ulceration may be present. If portions of the thrombi are not washed off, they remain without becoming organized, though calcareous deposits may be laid down in them. Three of these old defective valves were thought to have resulted from bacterial endocarditis. There are frequent gradations between rheumatic and bacterial endocarditis. Rheumatic vegetations were found in association with the lesions of subacute bacterial endocarditis in 75% of the hearts affected with the latter condition. It was thought that the ætiology of the calcified aortic nodular group was uncertain. In the sclerosed leaflets the defect of insufficiency is more commonly seen than that of stenosis. The only lesions seen in the pulmonary valves were thought to be of congenital origin.

Rheumatic Lesions in Blood Vessels.

WILLIAM C. VON GLAHN AND ALWIN M. PAPPENHEIMER (*The American Journal of Pathology*, May, 1926) state that there is a peculiar change in the peripheral blood vessels in rheumatic fever. Various organs are involved and usually the whole thickness of the vessel wall is affected and often the whole of the circumference. The endothelium is swollen and basophilic. It may be exfoliated into the lumen, but in no case has it led to thrombosis. The thickening in the early stages is mainly due to fibrin formation and in the later is often limited by the internal elastic lamina. There is also a necrosis of the cellular constituents of the vessel wall and in some vessels there is an extravasation of red blood cells. Outside the necrotic wall of the vessel is a loose fibrillar stroma in which lie lobed polymorphic nuclei and large vesicular nuclei tending to be arranged radially and looking elongated and club-shaped. Further out are lymphoid cells and plasma cells amid which are many dilated capillaries. This change may also occur in the capillary vessels. Reparative changes follow and the fibrinous exudate is replaced by permanent tissue. The secondary vascularization of the *intima* is remarkable and the healed lesion resembles at first glance a canalized thrombus, but the circulation is at no time interrupted by thrombosis. The muscular coat in the larger arteries in many instances disappears, so that the internal elastic lamina come to lie in close approximation to the external lamina. The fate of the surrounding inflammation has been more difficult to trace in detail.

Retroperitoneal Cysts.

R. LESLIE STEWART (*Edinburgh Medial Journal*, July, 1926) describes two cases of retroperitoneal cysts and discusses the condition. He states that cysts occurring in the retroperitoneal tissues are very closely allied to those found in the mesentery of the small intestine of mesocolon. The former are usually lined by a smooth epithelium, either columnar or cuboidal, and the contained fluid is straw-coloured. The cysts may also contain cholesterin crystals and red blood cells and degenerate epithelium. The exact ætiology of the tumours is uncertain. The view formerly favoured was that of a lymphatic origin, but a number of cysts associated with diverticulosis have suggested the subsequent isolation of the diverticulum with cystic formation. Mesocolic cysts are supposedly formed by a coalescence and disappearance of the two posterior layers of peritoneum during embryonic rotation. In view of the fact that they are anterior to the spermatic and ovarian vessels, they are differentiated from urogenital cysts which are supposed to arise from sequestrated remnants of the developing urogenital system. The two cases described were thought to be of urogenital origin; the cyst lay behind the ureter in both instances.

Adenoma of the Islands of Langerhans.

SHIELDS WARREN (*The American Journal of Pathology*, July, 1926) reports four cases of adenoma of the islands of Langerhans. The following points have been taken by him in establishing the identity of the tumours. The morphology and arrangement of the cells resemble those of the island cells; they were encapsuled and compressed the surrounding pancreatic tissue. The size of the tumour was at least one millimetre in diameter. From the description of one of the tumours it appears that they consisted of irregular masses and cords of cells in a fibrous stroma. Under high magnification the tumour cells were seen to be small and cuboidal or low cylindrical in shape. Sinuses filled with blood were frequently in contact with the cord cells. The nuclei were vesicular with several chromatin masses, but no mitotic figures were seen. The cytoplasm took on a pink stain with eosin-methylene blue. No zymogen granules were present; β granules were demonstrated, but owing to fixative method no α granules could be seen.

Subcutaneous Lesions in Tularæmia.

H. H. PERMAR AND G. C. WEIL (*The American Journal of Pathology*, May, 1926) report a case of tularæmia and demonstrate the histopathology of the subcutaneous lesions in man. A typical inflammatory nodule contained a necrotic centre containing granular *débris* with polymorphonuclear cells and degenerating cells of the endothelial type. Around this was a narrow zone of partly degenerated endothelial leucocytes in a meshwork of fibrin and surrounding all was granulation tissue. The fibroblasts were numerous, large and closely packed together and their radial arrangement resembled the endothelial arrangement seen in tuberculosis. A striking and unusual finding was encountered in the presence of many large giant cells very like the Langhans type. In some of the nodules the endothelial cells were seen to include mitotic figures, indicating considerable proliferative activity. Finally the development of small secondary necrotic foci in the wall about the necrotic centre contributed to the granulomatous character of the lesion.

MORPHOLOGY.

The Biliary Tract of Certain Rodents.

GEORGE M. HIGGINS (*Anatomical Record*, February 25, 1926) claims that in spite of valuable work during the last few years on the physiology of the gall bladder, its entire function in the economy of the organism remains relatively obscure. It is with the idea of trying to throw some light on this problem that he undertook research on the structure and arrangement of the bile ducts within the liver in an animal which has a gall bladder and an animal which has not, so that he could compare them to see if there was any compensating mechanism within the liver. Early embryos were taken from the gravid uterus of the mouse and rat at intervals under sterile technique. In the majority of instances the embryos of each species studied had a common parentage. The problem of the gall bladder is further complicated by the normal absence of the vesicle in many species representative of groups which normally possess one. Thus it is absent in the horse, present in the pig, absent in the rat and found in the mouse. The mouse and rat were the animals chosen, because they were allied species of the one group, that is both are rodents and pursue in a measure the same general habits of life. Why one should possess a gall bladder and the other lack it, is a problem of great physiological and morphological interest. The similarity of environment and food suggests that those animals normally lacking a gall bladder possess some mechanism which compensates for the absence of the vesicle. As no extrahepatic mechanism has been demonstrated, it remained to be shown that there was no intrahepatic mechanism. It was found that in the rat there was an extensive plexus of bile ducts around the vascular channels. This was not found in the mouse. This plexus of bile ducts around the portal vein in the rat's liver may be an intrahepatic compensatory mechanism for the concentration of bile or for other functions analogous to those of the gall bladder of the mouse. It was found that the bile which reaches the gall bladder, is concentrated about ten times by the absorptive activity of the viscus; in the case of the animal without a gall bladder like the rat, the bilirubin concentration of the bile taken from the common hepatic duct is eight times as great as that from the liver of the mouse.

The Weight of the Pancreas.

JOHN H. SCHAFFER (*Anatomical Record*, February 25, 1926) states that a study of the literature shows the absence of an accurate knowledge of the normal weight of the pancreas in man and the lack of any suitable data for the establishment of such normal values. The weight of the pancreas in a series of two hundred and sixteen specimens personally examined by the author is presented and analysed statistically. The mean weights of the normal pancreas, as established by this study are: 84·88 ± 14·95 grammes in the female and 90·31 ± 15·08 grammes in the male. A possible racial difference between the weights in the male and female in English and American populations is indicated. A positive correlation is established between the normal weight of the pancreas in the adult and the normal body weight in both the male and female, the correlation being higher in the female than in the male. A fairly high negative correlation is established between normal weights for the pancreas and age in the female, but in the male this correlation is so extremely low and the probable error so high that a correlation cannot be said to exist. No correlation is established between the normal weight of the pancreas in the adult and stature in either sex. It is probable that the values established for adult weights of the pancreas will be little changed by a more extensive series from the same source. On the other hand it is probable that a more extensive series from the same or a similar source will confirm the author's findings.

The Development of the Thyreoid Gland.

HARRY A. KULL (*Anatomical Record*, February 25, 1926) is of opinion that the reports found in literature with regard to the sequence of phases in the development of the thyreoid gland during its late embryonic period do not yield a uniform picture. These phases are the formation of follicles, the appearance of colloid and in general the beginning of secretion. It is important to determine the time of incidence of these changes in embryonic development, because it seems to be well established for many animals and for man that there is a secretion during this period, but there are apparently differences in the time of its exhibition. The problem was investigated in the albino rat and it was found that the development of the thyreoid gland to the stage of function, as detected by histological methods, occurs during the last three or four days of embryonic life. The order of events is as follows: At eighteen days there is cord formation by connective tissue separation; at twenty-one days, follicles appear in the periphery which contain a little colloid, while in the central part of the gland there is merely a suggestion of follicle formation. Between twenty-one and twenty-two days, however, an almost explosive unfolding occurs, so that the gland of an embryo of twenty-two days, the day before birth, is completely folliculated.

The Golgi Apparatus.

ROBERT H. BOWEN (*Anatomical Record*, February 25, 1926) discusses the history of the research and of opinion concerning the Golgi apparatus. He gives an account of its structure in animal cells and examines the question of its existence in plant cells. He finds that the Golgi apparatus has not been identified as yet with anything approaching certainty in plant cells. In discussing the possible function of this apparatus, the author states that it would appear to be the synthetic centre wherein are built up primarily those cellular products which in the broadest sense of the term may be classified as secretions, including some substances which ordinarily pass under the name of excretions.

The Testis of the Porpoise.

CHI PING (*Anatomical Record*, February 25, 1926) gives an account of the morphology of the male reproductive glands and their ducts in the porpoise, *Neomeric phocænoides*. He states that the different parts of the male generative apparatus of the porpoise are supplementary to one another. Owing to the large number of lobules in the testis, the septa are more numerous than those found in the usual mammalian testis, so that it may be said that the *rete testis* is evenly distributed throughout the reproductive gland. Consequently the absence of the *mediastinum testis* does not result in any functional defect in the organ. The *vasa efferentia* are small and not so well developed as in the ordinary mammalian testis, but the complicated epididymis seems to assist in passing the spermatozoa in normal rate and manner. Likewise the much convoluted *vas deferens* seems to supplement the single, simple *vesicula seminalis* in functional activity.

The Position of Viscera.

MOODY, CHAMBERLAIN AND VAN NUYS (*American Journal of Anatomy*, May 15, 1926) state that the description and illustrations of the position and relations of the thoracic and abdominal vescera are based to a great extent on the study of these organs in material embalmed in the horizontal position. They advocate the teaching of the anatomy of these parts as they are found in the living, not as they are found in the dead. In view of the great variation of the form and position of the stomach in living individuals, the great variation of the position of the pylorus and the change in the position of the stomach, pylorus, liver, transverse colon and hepatic and splenic plexures of the colon caused by change in the position of the body, the anatomy of the viscera based on a study of the dead loses much of its value and gives students many wrong concepts of visceral form, position and relations. The article is illustrated by several figures comparing the positions of the various viscera in the vertical and horizontal positions.

Vasoligation.

R. R. HUMPHREY (*Anatomical Record*, May 25, 1926) gives an account of histological findings in testes following vasoligation. The ligatures were found on the *vas* after eighteen months and the *vasa* appeared to be completely occluded. The work of Moore, Oslund and others that vasectomy or vasoligation alone does not cause a degeneration of the germinal epithelium was strikingly confirmed.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at St. Vincent's Hospital on October 14, 1926, DR. F. BROWN CRAIG, the Honorary Medical Secretary, in the chair.

Sarcoma of the Naso-Pharynx.

DR. H. H. BULLMORE showed a male patient, aged eighteen years, who complained of swelling of both sides of the neck and difficulty of breathing of about six weeks' duration. The patient's family history was clear. He was a ship's apprentice and had visited the tropics. He did not smoke and there was no history of alcoholism. He denied having suffered from either syphilis or gonorrhœa. Twelve months previously the patient had had some trouble with his nose and throat while in England and his tonsils and adenoids were removed. He had also been told that he suffered from nasal polypi and was advised by a doctor to have them removed; this was done in Australia after his arrival at Newcastle in June, 1926. Five weeks later diathermy had been applied to the naso-pharynx for a recurrence of growth. About two weeks after this he had been told that he was suffering from an inguinal hernia; this was operated on. During convalescence it had been noticed that the glands in the neck were becoming enlarged and also that a dark brown mass was protruding from the naso-pharynx. At this time the patient had begun to complain of weakness and of difficulty in breathing; he was unable to breathe through the nose and had slight deafness in the right ear. These symptoms had gradually progressed since his admission to Saint Vincent's Hospital and his general condition had deteriorated.

Dr. Bullmore pointed out that the patient was pale and that he spoke with intonation peculiar to nasal obstruction. Halitosis was present. The patient suffered from irregular pyrexia and the pulse was somewhat rapid (100 or 120 in the minute). A large mass of glands was present on both sides of the neck and it was most prominent on the right side. The glands formed a fairly homogeneous mass on the right side, but were more discrete on the left. They were not tender and the skin which was not inflamed, was freely movable over them. They were not adherent to the deeper tissues. The discrete glands were elastic and tense and not of a stony hardness. On examination of the oropharynx it was seen that the mouth was clean, the teeth were in fairly good condition, the tongue was furred, brown and dry and considerable halitosis was present. A dark brown mass of tissue extended down from the naso-pharynx towards the base of the tongue. It felt fairly firm and fleshy, but was not hard. The patient's urine was normal. Two days before the meeting the patient had suffered from an attack of paroxysmal tachycardia lasting about eight hours with a pulse rate of 210 in the minute. Since admission the patient had complained of pain in the back of the head and in the lower lumbar region. A blood count yielded the following result:

Erythrocytes, 4,150,000 per cubic millimetre.
Hæmoglobin value, 70%.
Colour index, 0·84.

Leucocytes, 52,000 per cubic millimetre.
Neutrophile cells, 88%.
Eosinophile cells, 1%.
Lymphocytes, 10%.
Large mononuclear cells, 1%.

Slight anisocytosis was present and no nucleated red cells were seen.

Lymphocythæmia.

Dr. Bullmore also showed a patient who was suffering from lymphocythæmia. This case will be reported in a subsequent issue.

Paroxysmal Tachycardia and Cholecystitis.

DR. O. A. A. DIETHELM showed a male patient, aged forty-two years, who had been admitted to hospital on August 25, 1926. The patient had given a history of occasional attacks of tachycardia lasting for one to two days. The attacks had occurred at intervals varying from one to four months during the previous four years.

The patient had become ill three days prior to admission with pain in the right hypochrondium and in the epigastrium; the pain was dull in nature and accompanied by vomiting. A feeling of nausea had been present, described by the patient as something coming up at the back of the sternum. Slight pain had been present in the shoulder. The patient had not been jaundiced, but vomited a small amount of blood. The patient had given a history of indigestion with no pain after food, but some flatulence and vomiting attacks with a feeling of distension. The bowels had acted regularly and micturition was normal. The patient's mother had died from acute rheumatism at the age of forty-three and the father from "influenza" at seventy-eight years of age. One brother suffered from acute rheumatism. On admission the patient had been well nourished and had suffered from some respiratory distress. The mouth had been clean and the teeth in fairly good condition, although some dental sepsis was present. The abdomen had been soft and moved freely on respiration, tenderness was present over the ninth rib on the right side and the liver was palpable and enlarged. The abdomen had been fat and neither masses nor free fluid were detected. The pulse rate had been more than 200 in the minute and its rhythm was regular. The cardiac apex beat had been at the level of the sixth rib, 11·25 centimetres (four and a half inches) from the middle line. A soft blowing systolic murmur had been audible and no pulsation had been found in the veins of the neck. Some crepitations had been audible at both bases posteriorly and the urine was normal.

Dr. Diethelm explained that after the patient's transfer from the surgical ward he had become cyanosed and dyspnœic. After five days, however, his pulse rate had fallen from 200 to 96 and he had felt much more comfortable. He had then become feverish and had coughed a good deal with some blood stained sputum. Medium pitched moist râles had been present in both lungs. By September 20, 1926 (sixteen days later) the patient had been very well, his pulse was steady, he had no cough and he was taking full diet. On September 25, 1926, tachycardia had occurred suddenly and had been accompanied by pain in the præcordium and in the abdomen. Digitalis and morphine had been administered and abdominal discomfort had been relieved by enemata. Eight days later the tachycardia had ceased and the pulse rate had fallen to 120. No tubercle bacilli had been detected in the sputum. The patient's serum had not reacted to the Wassermann test and the stools were normal. A blood count had been made and the following results were obtained:

Erythrocytes, 5,600,000 per cubic millimetre.
Hæmoglobin value, 80%.
Colour index, 0·8.

Leucocytes, 13,000 per cubic millimetre.
Neutrophile cells, 63%.
Eosinophile cells, 6%.
Lymphocytes, 30%.

No abnormality of the red cells had been found.

Dr. Diethelm in discussing the case expressed the opinion that the gall bladder acted as a focus of infection and in this way gave rise to the tachycardia.

Aortic Aneurysm.

Dr. Diethelm also showed a man, aged fifty-four years, who complained of pain in the chest and shoulders and in the back of the neck of about two years' duration. The patient was a married man with no children. The family history was good. The patient was a cook. He had lived in the tropics, was a heavy user of tobacco and took only a moderate amount of alcohol, but had periodical drinking bouts. Inquiry into his previous history revealed that he had not suffered from syphilis, but had contracted gonorrhœa. He had undergone surgical operations for a divided ulnar nerve in the left arm and for hæmorrhoids.

The first thing noticed by the patient had been pain in the back of the neck while in bed at night, the pain was

dull and aching in character, but not very severe. It had been situated in the upper part of the interscapular area and had been noticeable only when the patient was lying down. This had been followed by a feeling of giddiness and of lightness in the head, occurring in periodical attacks and causing the patient to sit down for ten minutes at a time. He had not fainted. These attacks had occurred fairly frequently and were exaggerated by hard work and excitement. He had not complained of noises in the head nor of ringing in the ears. The next thing noticed by the patient had been shortness of breath and inability to do his work as well as usual. At this time he had been admitted to hospital where he was told that he was suffering from an aneurysm. He had also begun to have attacks of pain in the chest and shoulders and down the left arm as far as the elbow on the inner side. This pain had occurred in attacks and had been very severe. The patient had lost his vision for the time being. He had frequently vomited during an attack. On leaving hospital for the last time the patient had been fairly well until about eight or nine months before the date of the meeting when he began to get a recurrence of symptoms of a milder nature. In addition he had noticed that his voice was becoming somewhat husky. Apart from the attacks the patient's general health had been good. He had recently lost four kilograms (nine pounds) in weight. His appetite was good.

Dr. Diethelm pointed out that the patient suffered from indigestion, he had to be very careful of his diet. He complained of flatulence, but had no actual pain in the epigastrium and no vomiting. Examination of the abdomen revealed no abnormality. The pulse was unequal on the two sides and asynchronous, but soft, the rate was 78 in the minute. The force and tension varied on the two sides. The artery wall was not thickened or more coarse than normal. The systolic blood pressure in the right arm was 95 millimetres of mercury and the diastolic pressure 60 millimetres. On the left side the figures were 70 and 60 millimetres. No visible abnormality of the chest wall was present and there was no abnormal pulsation or thrill and no venous pulsation in the neck. The apex beat was in the fifth intercostal space 9·3 centimetres (three and three-quarter inches) from the middle line. The first sound at the apex was slightly impure and occasionally reduplication of the second sound was heard at the base. The second sound at the aortic area was not accentuated. No episternal pulsation was present. The colour of the cheeks and of the mucous membranes was good. The patient complained of a cough which had been present for some time and he had some sputum of a thick yellowish white nature occasionally streaked with blood. His voice was slightly hoarse. No tracheal tug could be felt. No abnormal dulness was found in the chest, but tenderness was present in the upper left interscapular region on percussion. The breath sounds were vesicular and both vocal fremitus and vocal resonance were normal. The patient's urine was normal. The glands in the groin and axillæ were enlarged. The other glands appeared to be normal. The pupils were small, equal and reacted sluggishly to light. Knee jerks were present, but the response was slight. A reaction had been obtained with the blood in the Wassermann test. X ray examination revealed a large aneurysm of the arch of the aorta.

Exophthalmic Goître.

Dr. Diethelm's third patient was suffering from exophthalmic goître. A report of this case will be published in a subsequent issue.

Birth Palsy.

DR. D. J. GLISSAN showed a girl, aged nine years, who had been admitted to hospital on March 20, 1926, complaining of birth palsy, the result of posterior dislocation of the head of the humerus. Examination of the left upper extremity had revealed slight wasting in the extensor muscles of the wrist and in the triceps. Wrist drop had been present and the patient had been unable to raise her arm above the shoulder level on account of the limitation of movement resulting from the dislocation. Extension of the forearm was poor, supination was poor and pronation was good. Three days after admission surgical operation had been undertaken by Dr. Glissan who had replaced the head of the left humerus in the glenoid cavity and had transplanted the supinator tendon. The patient had been discharged on April 23, 1926, and her condition at the time of demonstration was good.

Neuroma of the Radial Nerve.

Dr. Glissan's second patient had been admitted to hospital on May 2, 1926. He had met with an accident thirteen weeks previously and had received a wound on the lateral aspect of the lower part of the humerus. Since then he had been unable to dorsiflex the wrist and the fingers of the right hand. On examination the movement of the shoulder joints had been normal, pronation and supination had been limited to a slight extent at the elbow. Flexion of the wrist joint had been normal and extension absent, abduction and adduction had been limited. Dorsiflexion of the fingers had been limited and adduction present. Sensation had been lost on the dorsal aspect of the lateral portion of the forearm and on the radial side of the dorsum of the hand. Sensation in the fingers had been normal. On May 4, 1926, excision of a neuroma of the radial nerve and nerve suture had been carried out. The patient had been discharged on May 15, 1926.

Nerve Suture.

The third patient shown by Dr. Glissan was a boy, aged nine years, who had been admitted to hospital on May 15, 1926, with a history of injury nine months previously. Examination had revealed that the left leg was much thinner than the right and that a scar was situated at the posterior and lateral aspects of the biceps tendon. A scar was present in the middle of the poplyteal fossa. The foot was in a state of plantar flexion, inversion and adduction with a slight tendency to *pes cavus*. Adduction was good, power was good, abduction was absent, plantar flexion was good and dorsiflexion of the toes and ankles was absent. There was no loss of sensation. On May 19, 1926, Dr. Glissan had carried out suture of the common peroneal nerve and had corrected the deformity of the foot by means of a plaster splint. The patient had been discharged on June 2, 1926.

Injury to the Ulnar Nerve.

Dr. Glissan's next patient was a woman who had come under treatment on June 24, 1925, complaining of pain and wasting of the right hand. The patient had injured her right elbow thirty years previously, she had been treated for fracture, but after manipulation by a bone setter gained good movement at the joint. Seventeen years later the patient had injured the same elbow by falling down stairs. Ever since the first injury the arm had been crooked, but she had had full use of the limb until sixteen months before Dr. Glissan saw her. At this time she had complained of numbness in the ring and middle fingers of the right hand. Shortly afterwards the hand had begun to waste and the patient had felt a dull heavy ache in the forearm and hand. On examination Dr. Glissan had found an unreduced dislocation forwards of the head of the right radius, *cubitus valgus* and wasting of all the muscles supplied by the ulnar nerve. Power had been lost in the *flexor carpi ulnaris* and in the ulnar slips of the *flexor profundus digitorum*. All power in the intrinsic muscles of the hand supplied by the ulnar nerve was lost. Total ulnar anæsthesia and pain and paræsthesia were present on tapping the ulnar nerve.

Operation had been undertaken on July 14, 1925. The ulnar nerve had been transposed to the front of the elbow and buried entirely in the muscles arising from the inner aspect of the humerus and ulnar at the elbow. The wound had healed by first intention and a week after operation the pain had been greatly relieved and sensation began to return at first in the ring and little later in the middle finger. Suitable splinting and later reeducation of the weakened muscles had resulted in a gradual improvement, until at the time of demonstration there was some wasting but return of power in all the muscles previously paralysed and weakened. A little tingling was felt from time to time in the little finger. Dr. Glissan explained that at

the time of operation the ulnar nerve had been found to be reddened and constricted for a distance of about two and a half centimetres as it lay in the groove behind the medial epicondyle. That there was an increase in the fibrous tissue of the nerve was shown by the resistance to the separation from the trunk by careful dissection of the branches of supply to the *flexor carpiulnaris* and *flexor profundus digitorum* to allow the trunk to be transposed without impairment of the nerve supply to these muscles.

Splints.

Dr. Glissan gave a demonstration of various kinds of splints and paid particular attention to the improvisation of splints made from saddlers' felt and strips of aluminium. He emphasized the importance of making the splint to fit the patient and not the patient to fit the splint.

Calcification of Subdeltoid Bursa (So-Called).

DR. B. T. EDYE showed a male patient, forty-one years of age, a presser by occupation, who had been admitted to hospital on November 17, 1925, complaining of pain in the right shoulder of twelve months' duration. The pain had begun in the bicipital region of the right arm and extended to the deltoid region. The pain in the shoulder had been constant and from time to time became more severe and radiated down the arm to the wrist. It had been worse at night and prevented sleep. The power to abduct and rotate the arm had been gradually and completely lost and other movement had become much impaired. The patient had been compelled to give up his occupation four months previously. Various methods of treatment had failed to give relief. The family and personal history had contained nothing of importance except that in his occupation as a presser he used his right arm constantly. Examination had revealed that the patient was unable to abduct or rotate the arm, but could move it in other directions to some extent. The deltoid muscle had been much wasted and other muscles about the shoulder were affected, but to a lesser degree. Tenderness had been present over the deltoid muscle below the outer border of the acromion process and any attempt at passive abduction of the arm caused pain. On a skiagram opacities were seen above and lateral to the head of the humerus, these were probably in the position of the subdeltoid bursa or the capsule of the shoulder joint.

On November 24, 1925, a vertical incision had been made over the deltoid region and fibres of the deltoid muscle had been separated. The subdeltoid bursa had been opened, but was found to be healthy. Subjacent to it and in the capsule of the shoulder joint there had been a raised area 2·5 centimetres (one inch) in diameter which fluctuated. This had consisted of a small cavity containing soft calcareous material and with ragged degenerating walls of fibrous tissue. The degenerated tissue had been cut away until healthy capsule was exposed all round. The wound had then been closed. Before the incision was made the arm had been passively abducted and rotated. For this some force had been necessary as the muscles had undergone a considerable degree of contracture. The wound had healed and the patient was discharged from hospital in a week. After three weeks the patient's arm had been normal and had remained so.

Osteomyelitis of the Femur.

Dr. Edye's second patient was a girl, aged eleven years, who had been admitted to hospital on January 4, 1926, complaining of pain in the left hip of one week's duration. The patient had fallen while surfing and three days later while bathing had noticed a pain down the left thigh. Three days prior to admission the pain had become acute in the lateral aspect of the left hip. On admission the patient had appeared to be in great pain and looked ill, she lay on her right side, the tongue was dry and furred and the temperature was 39·6° C. (103·4° F.), the pulse rate was 120 and the respirations numbered 36 in the minute. The upper third of the left thigh had appeared fuller than the right and any attempt to move the hip or knee was resisted on account of the pain. Tenderness had been present along the shaft of the femur. Operation had been undertaken on the day of admission. The hip joint and the neck of the femur had been exposed by the anterior route and an exploring needle was inserted into the joint, but no fluid was withdrawn. A disc of bone had been removed by a trephine from the base of the neck of the femur. Pus containing *Staphylococcus aureus* had exuded from the opening, a tube drain was inserted and the wound partially sutured. After the patient had been returned to bed, weight and pulley extension was applied to the limb. The wound had discharged pus freely, but the temperature gradually subsided and was normal on January 16, 1926. The tube had been discarded on January 29, 1926. On February 2, 1926, X ray examination had revealed irregular erosion and rarefaction of the neck of the femur and of the trochanteric region, the appearances being those of acute osteomyelitis. The child had been allowed upon a walking caliper and later had been discharged from hospital with a small discharging sinus. On June 29, 1926, the patient had been readmitted and a small sequestrum removed; after this the sinus healed. Subsequent X ray examination revealed no extension of the destructive process and evidence of new bone formation was found in the affected bone.

In discussing this case Dr. Edye pointed out that there had been some delay before operation was undertaken and he emphasized the necessity for early operation. He had seen patients allowed to wait for operation until an affected joint was disorganized.

Dr. H. H. Bullmore agreed with Dr. Edye that early operation was necessary, but he emphasized the danger of opening joints which were affected by rheumatism when a diagnosis of osteomyelitis had been made. It was well to take into account the response of the patient to salicylates and the presence or absence of a leucocytosis.

Carcinoma of the Papilla of Vater.

Dr. Edye's next patient was a woman, fifty-four years of age, who was admitted to hospital on August 30, 1925, complaining of jaundice of three months' duration. The jaundice, unaccompanied by pain, had made its appearance suddenly and without any other symptoms. The jaundice had been intense, the skin having a bronzed appearance. Operation had been undertaken on September 1, 1925. The gall bladder had been distended and tense and contained a colourless thin, mucoid fluid. The common duct which was 2·5 centimetres (one inch) in diameter had contained the same type of fluid. At the termination of the common duct a hard rounded nodule about six millimetres in diameter had been felt. The common duct had been opened and a scoop passed down to the constructing nodule. Portion had been removed for examination. The common bile duct had been anastomosed to the duodenum over an india-rubber tube. A drainage tube had been inserted into the fundus of the gall bladder and the wound was closed. The pathological report on the specimen had been to the effect that the epithelial cells of the glands of the mucous membrane were several layers thick, an appearance suggestive of carcinoma. The patient had made an uninterrupted recovery and the jaundice subsided. Examination of the stools had revealed no evidence of deficient pancreatic function. On November 28, 1925, the patient had been readmitted, she said she felt quite well and appeared in sound health. On the following day a second operation had been undertaken. The abdomen had been reopened and the anterior wall of the second part of the duodenum incised. An indurated ulcer six millimetres in diameter had been exposed at the site of Vater's papilla. This had been excised and the common duct sutured to the duodenum. The anterior wall of the duodenum had been closed and the abdominal wall repaired. The patient had made a satisfactory recovery and left hospital on December 27, 1925. According to the pathological report the ulcer consisted of an adenocarcinoma arising in the mucosa of the common bile duct at its termination in Vater's papilla. The subjacent muscular layers were deeply infiltrated. The malignant change had spread into the duodenal mucous membrane at the tip of the papilla and also along the mucous membrane of the duct. The line of excision was wide of the main infiltrated tissue, but at one point it appeared to pass through the mucous

membrane of the duct which had undergone a malignant change. Dr. Edye said that this appearance might be deceptive, because the duct had been dilated and filled with altered bile and *débris* leading to a considerable chronic irritation of the mucosa. At the time of demonstration the patient appeared to be in good health.

In discussing the case Dr. Edye emphasized the fact that it was often possible to do something for patients whose condition at first sight appeared to be inoperable.

Dr. George Bell, O.B.E., congratulated Dr. Edye on the result obtained in this case and he agreed with Dr. Edye's statement in regard to apparently hopeless conditions. He instance a patient who had been sent into Sydney Hospital by Dr. Fiaschi with all the symptoms and signs of stone in the common duct. When the abdomen was opened an extensive lesion had been found. At first it had been thought that this was malignant and the gall bladder was anastomosed to the duodenum. Examination had revealed that the nodules were tubercles. After the operation the patient had improved rapidly and at the time of the meeting was very well.

Chronic Periostitis.

Dr. Edye also showed a man, aged twenty-eight years, who suffered from pain and swelling of the left leg and right forearm of six years' duration. On examination it was seen that the irregular increase in the size of the left leg extended into the lower fourth of the femur. The thickening was due to bony enlargement. The condition in the right forearm was similar. According to the radiologist's report thickening of the bones of the leg and forearm with areas of rarefaction was present. Some of the areas were cystic and others were irregular. The appearance suggested *osteitis fibrosa*, but the radiologist thought that it might be of syphilitic origin. The patient had given a reaction to the Wassermann test and the leucocyte count was normal. The patient complained of pain in the leg which was worse in the early morning and when the patient walked about. There was no limitation of movement or other serious functional disability.

Lesion of the Penis.

Dr. Edye's last patient was a man, aged sixty years, who was suffering from a lesion of the penis. The *corpora cavernosa* contained nodular areas of induration of cartilaginous consistency extending through the whole length of the penis, but not involving the glans. The inguinal glands were not enlarged. The skin of the penis moved freely. No evidence of malignant disease was seen in any other part of the body. The prostate was enlarged and of elastic consistency. X ray examination revealed no evidence of vesical calculus or of calcareous deposition in the *corpora cavernosa*. The serum gave a "++++" reaction to the Wassermann test. The pupils were small, equal and reacted sluggishly to light. The knee jerks were exaggerated. The history given by the patient was that he had suffered from intermittent attacks of hæmaturia at long intervals since 1914. He had lost power of erection eight months previously. He complained of pain in the bulb of the urethra with frequency of micturition of five months' duration and this made him uncomfortable when seated. The urine contained albumin and pus. The patient was under the impression that the mass was getting smaller.

Chronic Ulcer of the Leg.

DR. V. M. COPPLESON showed a male patient, aged forty-three years, who had first been seen on May 17, 1926, when he gave a history that he had run a twig into the left foot nine months previously. The area had remained inflamed and ulcerated since that time. On examination the left foot had been found smaller than the right and behind and below the left medial malleolus was a large ulcerated and inflamed area. Varicose veins had been present in the left leg. The right leg had been swollen and had been the site of varicose veins. These were affected by phlebitis. The patient had been put to bed for fourteen days and during this time the phlebitis of the right leg had disappeared, but there was little if any improvement in the ulcer of the left leg. Dr. Coppleson had then treated the ulcer by the application of a balloon in the manner described by Mr. Fay Maclure (see THE MEDICAL JOURNAL OF AUSTRALIA, January 9, 1926, page 29). All swelling of the foot and pain had disappeared. The ulcer had healed rapidly and since that time the balloon had been worn continuously during the day.

Dr. Coppleson said that he had used the balloon treatment in other cases of chronic ulcer of the leg with excellent results. The results had not been quite so good when one or more ulcers were present on a large eczematous area. If the eczematous area were small the ulcer healed rapidly, provided that the whole area could be covered by a balloon. When the whole area could not be covered by one or more balloons, the ulcers which were covered, healed, but the uncovered eczematous area was liable to break. Dr. Coppleson said that as there was a trophic element in this case, he considered it a good example to illustrate the efficiency of the method.

Myxœdema, Hypopituitarism and Tetany.

Dr. Coppleson also showed a man, aged thirty-six years, whom he had first seen on September 16, 1926. The patient complained of pain in the right side occurring at intervals during several years. The pain came in attacks and the last attack had been five weeks before admission. The pain was severe and caught her when she breathed. It passed down the right side and into the right shoulder. During one attack several years previously she had been jaundiced. She frequently suffered from indigestion and became swollen after meals. She did not vomit, but often suffered from nausea and also from flatulence. For several years she had complained of breathlessness. Her hands and feet became swollen. She passed a small quantity of urine and had some scalding on micturition. She complained of severe headaches, the pain being at the top of the back of the head and behind the ears. Her right eye was "weak" and her eyes were sore to the touch. Her memory was bad. She slept badly and thought that she could see things which were not there. Her weight had increased. She complained of hot flushing and suffered from peculiar spasms. These usually occurred in the hands and feet, but were also noticed in the throat and in the abdominal muscles when she stooped. The muscles became affected by a spasm and she obtained relief by rubbing them. The spasms lasted from a half to one minute. The left hand was affected more than the right. The patient had three children all of whom were healthy, the youngest being nine years of age. The patient's menstruation was regular, although on one occasion she had suffered from amenorrhœa for five months. Ten years previously the patient had undergone abdominal section. She knew that her appendix had been removed. The patient had had no other illnesses except measles as a child. Her mother suffered from goître. All her brothers and sisters were large; one brother weighed 107 kilograms (seventeen stone) and another weighed 94·5 kilograms (fifteen stone). One brother had peculiar lumps under his skin. Dr. Coppleson pointed out that the patient's urine had a specific gravity of 1008 and that it contained neither albumin nor sugar. The temperature was 36·4° C. (97·6° F.). Tenderness was present over the ninth costal cartilage and œdema was found around both ankles. The patient had a typical myxœdema facies with a large mouth, broad thick nostrils and coarse broad features. A reddish patch was present on the cheeks and the skin was firm, inelastic, dry and rough. Supraclavicular pads of fat were present. The thyreoid gland was small with some apparent, but indefinite thickening in the region of the right lobe. The spasms were typical of tetany. Chvostek's sign was absent. Dr. Hansman had reported that the basal metabolic rate was — 26%. The pulse rate was 80 per minute and the respiratory rate 12 per minute. The patient's weight was 80·5 kilograms (twelve stone eleven pounds). Dr. Hansman had expressed the opinion that in addition to the hypothyreoid condition there was evidence of pituitary obesity in the "peaches and cream" complexion, the progressive obesity after childbirth and headaches. Dr. Coppleson said that the patient was being treated by thyreoid extract and whole gland pituitary extract. She was feeling better in every way.

Schlatter's Disease.

Dr. Coppleson's third patient was a boy, aged eleven and a half years, who had come for treatment on May 25, 1926, with a history of having been kicked in the leg while playing football. After the injury some zinc ointment had been applied to the abrasion. Pain had continued in the leg ever since and the knee had felt as though it was jumping all the time. Subsequently the patient had noticed a lump in the right knee at the site of the kick. On examination enlargement of the tubercle of the right tibia, typical of Schlatter's disease, had been found and this was confirmed by X ray examination. The knee had been put in plaster and the patient was allowed to go to school. A skiagram taken on October 11, 1926, was shown for comparison with one of the normal knee.

Dyspituitarism.

DR. J. E. SHERWOOD showed a female patient, aged sixteen years, who had first attended as an out-patient on July 19, 1926. She had complained of being constantly tired for years. Her duties were confined to the house. The patient had had pneumonia on four occasions as well as bronchitis and croup. She had also suffered from measles and whooping cough and her tonsils and adenoids had been removed. Her weight at the age of two months had been thirteen kilograms (twenty-nine pounds), she cut her first tooth at sixteen months of age, she sat up when fifteen months old and she walked at the age of two years and three months. She had suffered from nocturnal enuresis until five years of age. In addition to weariness the patient suffered from violent fits of temper. During the previous twelve months her irritability had increased. Her violent temper and her increasing obesity were her chief troubles. She was not troubled by alimentary symptoms and rarely had a cold. She had occasional headache and backache, but suffered from no urinary symptom. Her menstruation occurred regularly every month, her periods lasted for seven days and were profuse. She suffered from premenstrual and menstrual dysmenorrhœa.

Dr. Sherwood pointed out that the patient suffered from almost constant purposeless movements of the hands. She was excessively adipose. Her weight was 79·5 kilograms (twelve stone nine pounds). Her hair appeared fine and was sparse apart from the region of the scalp; the teeth in both upper and lower jaws were separated, the interval between each being distinct. The fingers of both hands were delicate and tapering. They had formerly been cyanosed, presenting an appearance very similar to that of Raynaud's disease. The abdomen and chest appeared normal. The pulse rate was 88 in the minute. The apex beat was normal in situation and the heart sounds were clear. The systolic blood pressure was 115 millimetres of mercury and the diastolic pressure 85 millimetres. The pupils were equal and reacted equally. The knee jerks were active. The genito-urinary system appeared to be normal. The urine was normal. X ray examination had been undertaken and the pituitary region and the epiphyses were reported normal. The optic discs were normal, the blood serum had not reacted to the Wassermann test, the basal metabolic rate was —12·5%, the basal pulse rate was 88 and the basal respiratory rate 24 in the minute. A provisional diagnosis of dyspituitarism had been made owing to the combination of signs of both hypopituitarism and hyperpituitarism. Treatment had been commenced by the administration of whole pituitary gland 0·03 gramme (half a grain), thyreoid extract 0·03 gramme and suprarenal substance 0·06 gramme. This quantity was being given three times a day and the dose would be increased from time to time.

Rodent Ulcer of the Lower Lid.

DR. V. M. COPPLESON and DR. F. G. A. POCKLEY showed a patient who had been treated by diathermy for a rodent ulcer of the lower eyelid. This case will be reported in a subsequent issue.

Skiagrams.

DR. BEDE HARRISON showed a series of interesting skiagrams. Included among the number were several of carcinomata of the stomach and tuberculosis of the caecum. An unusual condition shown was that of an intercalary vertebra. This consisted of half a vertebra situated immediately below the fifth lumbar vertebra. Dr. Harrison said that as far as he knew this was the first described in this position. As a rule such vertebræ were found in the dorsal region. The patient had good compensation.

He also showed a skiagram in which there was evident fragmentation of the epiphysis of the first metatarsal bone. This was a condition somewhat similar to Perthes's disease. He had seen no previous reference to such a condition.

Among other conditions exemplified were *osteochrondritis desiccans*, syphilitic osteitis and an osteoma of the temporal bone.

Multiple Aortic Aneurysm.

DR. JOHN P. TANSEY gave an account of the clinical history of a patient who had suffered from multiple aortic aneurysm. This case will be reported in full in a subsequent issue.

Pathological Specimens.

DR. MARJORY LITTLE demonstrated a series of pathological specimens. Included among these were the heart, aorta, ribs and sternum from the case of multiple aneurysm described by Dr. Little.

Specimens were also shown of a Grawitz tumour, taken at *post mortem* examination from a boy aged fifteen years. In the kidney the tumour had grown along the pelvic vein. The lungs were studded with secondary nodules. Multiple nodules were found in the brain. Spontaneous fracture had occurred in the humerus at the site of a secondary deposit.

Cavitation due to chronic tuberculosis of the caseating type was seen in a lung together with nodules from a primary epithelial new growth in the left bronchus.

In a uterus were seen multiple fibroids and adenocarcinoma of the body of the uterus. One of the fibroids was of the submucous type and pedunculated. It had caused great stretching and enlargement of the uterine canal.

Other specimens included: An amputated nose which was affected by squamous carcinoma; a rodent ulcer with extensive involvement of the ear and side of the face; fungating carcinoma of the breast (operation had been refused twelve months previously); ectopic gestation with a greatly distended tube and the fœtus *in situ*; a kidney with congenital dilatation of the renal pelvis; a stomach with diffuse carcinomatosis and perforation.

MEDICO-POLITICAL.

THE COUNCIL OF THE SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION at its meeting held on October 7, 1926, considered the following matters.

Model Lodge Agreement.

No further action was taken in regard to the determination of the existing model lodge agreement by giving three months' notice to the South Australian Friendly Societies' Association.

The recommendations of the Lodge and Ethical Subcommittee in regard to the form of certificate and fees to be charged in connexion with the proposed increased lodge benefits were submitted for consideration. It was resolved that the South Australian Friendly Societies' Association be asked to appoint a delegation to confer with the members of the Lodge and Ethical Subcommittee on the several points raised.

Workmen's Compensation Act.

The recommendation of the Lodge and Ethical Subcommittee that legal opinion be obtained on some matters raised by Dr. F. H. Beare in regard to the giving of certificates under the provisions of the *Workmen's Compensation Act* was approved.

Information to the Lay Press.

Two questions from a correspondent who signed himself "Argument" had been referred by the editor of *The Advertiser* to the Council for replies. It was decided that the editor be informed that the Council did not consider that it was within its province to supply replies to questions of this nature.

Library Arrangements.

The following recommendations submitted by the Library Committee were approved:

(i.) That the present arrangement in regard to the Library of the Adelaide University be continued.

(ii.) That Dr. A. A. Lendon's offer to overhaul the books, journals *et cetera* at the B.M.A. House be accepted and that he be asked to make a survey and report to the Council.

(iii.) That the existing library facilities being unknown to many members, a notice be inserted in the next monthly circular.

Parking of Motor Cars.

A letter from Dr. C. Duguid suggesting that representations concerning the parking of motor cars on North Terrace be made through the Automobile Association, was read. It was resolved that Dr. Duguid be advised that the Council did not consider such action advisable as on a previous occasion when similar representations had been made, increased activity on the part of the responsible authorities had resulted.

Visit of Sir George Buchanan.

A suggestion from Dr. F. S. Hone was considered to the effect that some official recognition of the visit of Sir George Buchanan, of the British Ministry of Health, should be made. It was decided that the President should see Dr. Hone and ascertain what he suggested.

Puerperal Fever Morbidity Rates.

The Council discussed some morbidity statistics of puerperal fever which had been forwarded by Dr. F. S. Hone and also a press cutting on the same subject which had been submitted by Dr. F. N. Le Messurier. It was resolved that Dr. Hone be advised that the Council had no considered plan of action, but would be glad to receive his suggestions. It was further resolved that Dr. Le Messurier be informed that Dr. Hone had not delivered a paper, but had based his remarks on an address given by Dr. Marie Brown.

Listerian Oration.

A letter was read from Dr. R. Marshall Allan in which he accepted the invitation of the Council to deliver the Listerian Oration in 1927 and in which he expressed his appreciation of the honour.

Medical Agency.

DR. W. A. VERCO submitted the following motion:

> The South Australian Branch of the British Medical Association hereby transfers to the British Medical Hall Company, Limited, all its rights and interest in the medical agency.

As the relative minutes were not available, it was decided to defer the consideration of this motion until the next meeting.

A MEETING OF THE COUNCIL OF THE SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held on November 4, 1926, DR. H. H. E. RUSSELL, the President, in the chair.

Workmen's Compensation Act.

The legal opinion obtained from Messrs. Symon Mayo, Murray and Cudmore in regard to responsibility for the payment of medical certificates required for the purposes of the *Workmen's Compensation Act* was considered. It was resolved that a new slip in lieu of the printed one in circulation be drawn up by the Lodge and Ethical Subcommittee and submitted to the Council.

Library Arrangements.

A report prepared by DR. A. A. LENDON on the books and other documents in the Lister Hall was submitted. The following resolutions were adopted:

(i.) That the old historical works be retained.

(ii.) That the modern books, journals *et cetera* be offered to the Adelaide University to complete sets.

(iii.) That the balance be disposed of.

The Secretary was instructed to prepare lists of the books and documents in order to give effect to the resolutions. It was further resolved that a letter be written to Dr. A. A. Lendon conveying the appreciation of the Council to him.

Suggested Medical Association of Australia.

DR. H. S. NEWLAND explained at length the reasons that had prompted him to move that a medical association of Australia should be formed. A discussion followed and it was resolved that as the matter was of such a far-reaching nature, time should be given for mature deliberation. The further discussion was postponed until the next meeting.

Sir George Buchanan.

THE PRESIDENT reported that he had seen Dr. Hone who had written to Perth to ascertain the exact date of the arrival of Sir George Buchanan. Dr. Hone had also informed him that Dr. J. H. L. Cumpston had invited Sir George Buchanan on behalf of the Commonwealth Government to travel overland from Perth.

It was decided that Dr. Hone be advised that the Council would be very pleased if arrangements could be made for Sir George Buchanan to address the members of the Branch during his stay in Adelaide.

Model Lodge Agreement.

The Lodge and Ethical Subcommittee having conferred with the delegates of the South Australian Friendly Societies' Association, submitted the following recommendations:

(i.) That the fee for reexamination be seven shillings and sixpence and that a more detailed certificate be used.

(ii.) That in regard to new members those applying for the increased benefits should be dealt with in the same manner as members undergoing examination.

(iii.) That unfinancial members again coming on the funds and applying for the increased benefits should be dealt with in a similar manner and that the accumulated medical fees received by the lodges and belonging to the medical officers should be paid by all lodges and not by only a few as at present.

(iv.) That certificates should be clearly marked: "For increased benefits."

The recommendations were approved by the Council with the following addition to (i.) to be inserted after the words "seven shillings and sixpence": "to be paid by the examinee at the time of examination."

Accidents on Railways.

A letter was read from DR. S. L. DAWKINS, the Medical Officer of the Railway Department. He pointed out that the Department would not be responsible for payment of X ray examination of employees or passengers who had met with accidents. It was resolved that this fact should be notified to the members on the next monthly circular.

Australian Inland Mission.

A letter from the convener of the Victorian Council of the Australian Inland Mission had been forwarded by the Secretary of the Victorian Branch of the British Medical Association. It was contemplated that a scheme should be tested for supplying an outback district with a "flying doctor." The letter was received.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

McIntosh, James Joseph, M.B., 1925 (Univ. Sydney), Auburn District Hospital, Auburn.
Mitchell, Hugh Grenville, M.B., Ch.M., 1925 (Univ. Sydney), Gooyong, Camden.

THE undermentioned have been elected members of the Victorian Branch of the British Medical Association:

Le Soeuf, Ivan Albert Malet, M.B., B.S., 1926 (Univ. Melbourne), Alfred Hospital.
Stewart, Hector Hamilton, M.B., B.S., 1926 (Univ. Melbourne), Alfred Hospital.
Joynt, Wilbur Francis, M.B., B.S., 1926 (Univ. Melbourne), Alfred Hospital.

Medical Societies.

THE MELBOURNE HOSPITAL CLINICAL SOCIETY.

A MEETING OF THE MELBOURNE HOSPITAL CLINICAL SOCIETY was held at the Melbourne Hospital on September 24, 1926, MR. ALAN NEWTON in the chair.

Tumour of the Neck.

MR. C. H. OSBORN presented a male patient, aged fifty-nine years, who seven weeks previously had noticed beneath the angle of the left mandible a swelling which gradually increased in size and extended downwards towards the clavicle and medially across the mid-line. A few days after the patient had complained of pain behind the left ear and at the tip of the left shoulder. There had been no cough, no dyspnœa and no dysphagia. In the last few days there had been a slight alteration in the quality of the voice. On examination there was a large, irregular, lobulated tumour on the left side of the neck, extending ventrally across the mid-line in front of the trachea, dorsally far out into the posterior triangle and caudally behind the left clavicle. The mass was soft and fluctuant, but not hot or pulsatile and at the periphery, cranially and laterally firmer and more discrete nodules could be felt. The temperature was 38·5° C. (101·3° F.). There was dulness and diminution of breath sounds at both lung bases. There was no enlargement of the spleen or lymphatic glands. An examination of the blood revealed:

Red corpuscles, 3,624,000 per cubic millimetre.
Hæmoglobin value, 68%.
White corpuscles, 15,400 per cubic millimetre.
Neutrophile cells, 80%.
Small lymphocytes, 10%.
Myelocytes, 2%.
Large lymphocytes, 8%.

There was some inequality in size of red cells and slight polychromatophilia in the stained film.

X ray examination of the chest revealed a large shadow enveloping the aorta and extending up towards the apices on both sides. The larynx was deviated towards the right, but was otherwise normal. The Casoni test yielded no immediate reaction. The swelling had been explored by a needle and a small amount of bloodstained pus removed. On microscopical examination this was seen to contain numerous polymorhponuclear leucocytes and red blood corpuscles, cooci and diphtheroid bacilli. No tubercle bacilli were detected.

MR. HAROLD DEW expressed the opinion that the mass was due to a low grade inflammation.

MR. ALLAN HAILES thought the condition was neoplastic with breaking down, hæmorrhage and secondary infection.

DR. LESLIE HURLEY said that in his opinion the condition was either acute Hodgkin's disease or low grade inflammation. He thought that the mass should be incised.

MR. ALAN NEWTON regarded the mass as being inflammatory and thought it should be incised. If it were malignant, the patient would have shown more constitutional disturbance and the mass would have been harder.

DR. DOUGLAS THOMAS said that he had seen a similar case in which a diagnosis of lymphosarcoma was made. The mass had been incised and caseous material evacuated. Microscopical examination had established the diagnosis of Hodgkin's disease.

Diathermy in Inoperable Carcinoma.

MR. HAROLD DEW showed a male patient, aged sixty-four years, illustrating the good results of diathermy in the treatment of advanced carcinoma. Nine months before the patient had been seen, a mass had appeared on the alveolar margin and had spread to the anterior pillar of the fauces, the floor of the mouth and the under surface of the tongue. It had been deemed inoperable. Seven months later excision of the glands of neck and ligation of the external carotid artery had been performed with diathermic coagulation of a very wide area of the neoplasm and surrounding tissue. At the time of the meeting, except for slight fixation of the tongue and the presence of a small sequestrum in the alveolus the parts presented a normal aspect. Mr. Dew pointed out that it was in this type of case that diathermy was so valuable. It relieved the patient of a foul, fungating tumour, even though it did not give ultimate cure. Any recurrence could be drastically dealt with on a future occasion.

Mr. Dew's second patient was a male, aged thirty-nine years, who had been admitted with an inoperable carcinoma of the lower lip and alveolar margin and with the suggestion that radiotherapy alone could be of value. The glands of the neck had been completely removed on one side and partly on the other and the growth removed widely by coagulation. Mr. Dew pointed out the free mobility of the scar and the deformed lower lip which had become adherent to the alveolus. The latter would require a "Stent" inlay epithelial graft to free it and provide a new gingival sulcus. This with a slight plastic operation would restore the lower lip to a moderately good functional condition.

Rodent Ulcer with Metastases in Lymphatic Glands.

Mr. Dew's third patient was a male, aged thirty-eight, who four and a half years previously had had a rodent ulcer on the upper part of the sternomastoid muscle just below the mastoid process; this was treated by diathermy by another surgeon. Six months before the meeting a hard lump had appeared in the scar and the patient was told to report regularly. This he had failed to do and two months previously a fixed mass had been found in the lower part of the parotid gland and an enlarged lymphatic gland below it. There was also paralysis of the facial nerve. The growth, the glands, the parotid, the posterior belly of the digastric muscle and the upper third of the sternomastoid muscle had been removed by ordinary surgical methods, the facial nerve and the auriculo-temporal nerves being severed. The skin deficiency had later been grafted by means of a "Stent" epithelial inlay with gratifying results. Section of the tumour revealed basal-celled carcinoma with metastases in lymphatic glands and in the parotid. A microscopical section was exhibited at the meeting.

Mr. Dew pointed out that involvement of lymphatic glands was comparatively rare in rodent ulcer. Histologically there were several groups of basal-celled carcinoma, one in which metastases might occur representing a transition to epithelioma. He considered that the outlook in this case was good, as any recurrences would probably be in the accessible lymphatic glands in which growth was always comparatively slow.

DR. R. WETTENHALL said that metastases in rodent ulcer were extremely rare. He could not recollect having seen a case before.

MR. ALLAN HAILES said that eighteen months previously he had seen a patient with a small growth on the lower lip with involvement of the lymphatic glands. Microscopical examination had shown it to be a basal-celled carcinoma.

Fracture of the Bones of the Leg with Posterior Bowing.

Mr. Dew's fourth patient was a female, aged fifty-three years, who had been first seen nine months after a fracture of the left tibia and fibula. Movement had still been present at the site of the fracture with posterior bowing of the leg. At operation the ends of the bone had been cleared and an homologous bone graft had been taken from the right tibia and placed in a groove in the fractured tibia, being fixed with gut sutures. At the time an attempt had been made to correct the deformity, but it persisted. At the time of demonstration the patient had firm union, but the bones were still curved posteriorly. She was complaining of pain in the ankle and knee which Mr. Dew regarded as being due to a *genu recurvatum*. He asked for suggestions as to the best method of correcting the deformity. He proposed to do an osteotomy and attempt to straighten the limb. Shortly before admission to hospital the patient had been waiting for a tram and on moving suddenly on the right leg felt a crack. On admission the right shin had been painful and tender and X ray examination revealed a partial transverse fracture of the right tibia at the site from which the bone graft was taken. Mr. Dew said that in his experience this was very rare. The skiagram showed that the original deficiency in the tibia was almost repaired.

MR. ALAN NEWTON said that he had seen a fracture of the tibia occur at the site from which a bone graft had been taken. He would remedy the deformity by taking out a wedge of bone. He also referred to two unusual cases of non-union which had been due to a rapidly united fibula holding the ends of the tibia apart. In one he had removed part of the fibula to get apposition and in the other he had used the piece of the removed fibula for a bone graft in the tibia.

MR. ALLAN HAILES said that he knew of two cases of non-union in the tibia with the same causation as those mentioned by Mr. Newton. He had seen non-union in the bones of the forearm from a similar cause.

Polycythæmia.

DR. C. H. KELLAWAY showed a female patient, aged twenty-six years, who four years previously had noticed a duskiness in her colour most pronounced in the hands which had persisted and become progressively worse. There had been slight dyspnœa on exertion and she tired very easily. Her hands and feet had frequently felt cold. There had been no other symptoms. On examination there was generalized cyanosis more pronounced in the hands and feet than elsewhere. The fingers were clubbed. The cardiac apex was in the fifth intercostal space twelve and a half centimetres (five inches) from the mid-line and there was one finger's breadth of right heart dulness. At the mitral area there was a rough systolic murmur conducted out into the axilla. The pulmonic second sound was accentuated. The spleen could be felt five centimetres (two inches) below the costal margin. The right kidney was very much enlarged and the left kidney was palpable. The systolic blood pressure was 130 and the diastolic 85 millimetres of mercury. The urine had a specific gravity of 1005, was acid and contained albumin, but no sugar. An examination of the blood revealed:

Red blood corpuscles, 8,000,000 per cubic millimetre.
Hæmoglobin value, 140%.
White corpuscles, 8,000 per cubic millimetre.

A fragility test showed that hæmolysis commenced in 0·525% saline solution and was completed in 0·425%. In a control test hæmolysis commenced in 0·475% saline solution and was not complete in 0·35%. The blood urea had been twice estimated and the readings were 20 and 37 milligrammes respectively, per hundred cubic centimetres of blood. The urea concentration test had been carried out twice and the percentage of urea in the two hour specimens of urine was 1 and 1·22 respectively. X ray examination revealed enlargement of both kidney shadows particularly the right. The pyelograms of both kidneys were normal. There was no immediate reaction to the Casoni test. An attempt to estimate the blood volume had been unsuccessful, because owing to the increased fragility of the red corpuscles hæmolysis occurred in all the blood samples. Three X ray treatments had been applied to the spleen, but there had been no reduction in the number of red blood corpuscles. Dr. Kellaway regarded the condition as being one of *polycythæmia vera*, but thought that the blood condition might possibly be secondary to the renal deficiency. He intended to try the effect of benzol combined with X ray treatment to the spleen. He thought that the enlargement of the kidneys might be due to polycystic disease.

DR. R. P. MCMEEKIN concurred with the diagnosis made by Dr. Kellaway. He had recently had under treatment two patients with polycythæmia. In the first case the blood contained 9,000,000 red corpuscles per cubic millimetre. He had first tried the effect of X ray treatment to the long bones, but there had been no improvement. He had then given benzol, commencing with a dose of 0·3 mil (five minims) gradually increased up to 0·6 mil combined with X ray treatment to the spleen in full erythema doses. The patient had immediately begun to improve, the red count fell to 5,500,000 and the spleen rapidly decreased in size. In the second case a similar improvement had been noted with the same treatment. In this patient when the red count reached 8,000,000, he had complained of pain in the region of the spleen and would then have a rectal hæmorrhage. Improvement had then begun even without treatment. During the treatment the white corpuscles should be closely watched. Although there might be considerable improvement, the patients were not cured and relapses occurred. The severity of the disease was not proportional to the size of the spleen. He thought that the enlarged kidneys were polycystic, even although the blood pressure was low. In this disease the blood pressure was often not raised until the later stages were reached.

Diabetes with Reaction to "Insulin."

DR. W. W. S. JOHNSTON showed a female patient, aged forty-four years, who had been suffering from diabetes for six years. In 1922 treatment with "Insulin" had been attempted, but had to be discontinued owing to the development of severe reactions at the sites of injection. Two years previously Dr. F. G. Morgan had tried "Insulin" treatment, but again it had to be stopped for the same reason. An intradermal injection of 0·1 of a cubic centimetre of "Insulin" produced a large urticarial wheal. "Insulin" prepared from the pig and the sheep had been tried, but with the same result. In April, 1926, the patient had been admitted to the Melbourne Hospital under the care of Dr. C. H. Kellaway. The urine still contained sugar and the resting blood sugar was 0·2%. There had been signs of peripheral neuritis in both lower limbs and the patient complained of sharp, shooting pains below both knees. The liver and spleen had both been palpable. Pelvic examination had revealed a large tumour connected with the uterus. The uterine tumour which proved to be a myoma was removed under ether anæsthesia and after operation ten units of "Insulin" had been injected subcutaneously. A definite local reaction had followed. Three weeks previously the patient had been transferred to the out-patient department. She was then on a diet of 965 calories, containing 35 grammes of carbohydrate, 75 grammes of fat and 37·5 grammes of protein, her basal metabolic requirement being 1,425 calories. The urine still contained sugar, but there was no acetone or diacetic acid. The blood sugar was 0·2%.

Dr. Johnston asked for an expression of opinion on: (i.) the advisability of giving pancreatic preparations by the mouth, (ii.) the possibility of employing successfully other brands of "Insulin," (iii.) the treatment of the neuritis.

DR. C. H. KELLAWAY said that the patient was evidently sensitive to the proteins in the various brands of "Insulin" used. A small intradermal injection of "Insulin" had resulted in the production of an enormous urticarial wheal. He commented on the fact that small intradermal injections might cause considerable reactions, whereas a similar dose given subcutaneously might produce very little effect.

DR. L. A. I. MAXWELL thought that the "Insulin" should be diluted to such an extent that only a mild local reaction was obtained and that the patient should then be desen-

sitized by subcutaneous injections given every other day. A very considerable dilution might be necessary to begin with, but the dose could in all probability be rapidly increased.

DR. S. COWEN suggested giving four "Lobulina" tablets, containing yeast and pancreatic substance, three times a day three hours before meals.

DR. L. E. HURLEY commented on the fact that no general reaction had resulted from the injection of ten units of "Insulin" subcutaneously. He thought it possible that the reactions were of a toxic nature and not truly anaphylactic. He suggested that a minute dose of "Insulin" be given intravenously and if no reaction resulted, treatment could then be continued in this manner.

MR. HAROLD DEW suggested testing the patient with the proteins of the various animals from which the "Insulin" had been prepared with a view of determining whether the sensitiveness was to "Insulin" or to the proteins included with it.

Obituary.

OSBORNE HENRY REDDALL.

IN the record of the career of a successful general practitioner there are rarely many allusions to achievements in the scientific world. The road has few notable milestones; rather is it paved with stones so alike that none attracts attention. So it was with Osborne Henry Reddall. Throughout the years of his eminently useful life he worked continuously, doing good and being kind when his services were in demand. The people of Randwick lost their best friend, their staunchest champion and adviser on November 1, 1926, when he closed his eyes for the last time on earth.

Osborne Henry Reddall was born in Sydney on November 2, 1862. Had he lived one day longer, he would have reached the sixty-fourth anniversary of his birthday. Of his early childhood and school days there is little to relate, save that he seems to have acquired his sunny nature from his environment. He attended school at Moss Vale and tasted the fruits of popularity at an early age. After leaving school his parents sent him to England to study medicine. He entered University College Hospital and took his part in student life with a cheery optimism. He worked diligently, pleased his teachers and again gained much popularity among his contemporaries. In 1886 he obtained the diplomas of the conjoint board of the Royal Colleges of Surgeons and Physicians. He then spent a short time as clinical assistant at the Women's Hospital in Soho, a busy institution where experience of a very valuable type can be gained. Later he entered a private practice in a suburban district in the south of London. The call of his sunny homeland came to him and he obeyed the call. His return to New South Wales was in 1888. After a brief period of assistantship, he settled in Randwick, a suburb of Sydney and began to build up a large and important general practice. From the first he did well. There were few medical practitioners in the district in those days and the new comer did not have to wait long before his reputation as a competent doctor, a good obstetrician and a genial companion spread among the people. He had a wonderful insight into human character and almost intuitively he gained the confidence and affection of young and old. He was always cheerful. His patients gained hope as soon as he appeared and he realized how powerful an aid to treatment is faith. He took immense pains with his patients; no effort was ever spared to stem an advancing disease or to tide his patient over the crisis. After a short time he became very well known by his colleagues in Sydney and its suburbs and everyone liked him and admired his ability, perspicacity and sterling honesty. He possessed all the qualities of the old-fashioned, reliable family doctor. He never allowed doubt to become reflected in his countenance, words or gestures. He had an almost uncanny power of arriving at a correct diagnosis and he was the kindliest of men. Little wonder that he soon had more work to do than he could manage. Years passed by and he worked steadily and ceaselessly for the benefit of his numerous patients. In 1913 he divided his work with Dr. S. F. Lynch who remained his partner until 1922. About the year 1923 or 1924 he began to give up his practice. He felt the need for more leisure and relaxation.

Osborne Henry Reddall had but few hobbies outside his work. He was a great lover of horses and was an excellent judge of horseflesh. In recent years he owned one or two race horses and took a great pride in their achievements. In his home he was always the same genial, kind-hearted and lovable man. He married twice, but had no family. His first wife was an English woman. His second wife was a Miss Marion Shaw, of Sydney. He survived her by three years.

Correspondence.

"QUACKERY."

SIR: IN THE MEDICAL JOURNAL OF AUSTRALIA of June 30, Dr. Vallack severely attacks endocrinologists and all who use endocrine products and now after many weeks Dr. Noel Brown, of Melbourne, must also hit hard at the same inoffensive individuals.

Dr. Vallack asserts most dogmatically and without authority or experimental proof, that most endocrine substances "are totally destroyed if introduced into the stomach" although he excepts thyreoid and parathyreoid from such destruction.

Pineal, anterior pituitary and thymus, in addition to the two glands he excepts, will profoundly influence metamorphosis and development of tadpoles when given by no other means than the mouth.

Stochard and Papanicolaon have influenced the guinea pigs' œstrus by ovarian substance given also by the mouth and have obtained a "positive Dixon's test" in the cerebospinal fluid of dogs.

Robertson and Ray have increased the size of white mice 25% and have extended their duration of life by between one-sixth to one-seventh that of the normal by feeding with "Tethalin."

Knaus has proved that the oxytoxic substance of pituitary is absorbed in the mouth, Carnet and Terris that ingestion of the extract of the posterior lobe of pituitary increases colonic contractions, Bowman and Grabfield an increase metabolic rate from feeding with various pituitary preparations.

These examples are, of course, a long way from any proof of action in man, but are experimental facts and not idle opinions and it is fair to presume that drugs, having definite action upon animals, will also have some action upon man. It is useless to give examples from human subjects to one whose lofty reply would be "poor idiot, he is the subject of autosuggestion."

Dr. Vallack derides suggestion and antosuggestion as a means of treatment when combined with glandular therapy, but does not make it clear if he objects to suggestion combined with surgery or the surgeon being the subject of autosuggestion. Yet he should know that suggestion plays a large part in all treatment and without it the majority of the drugs are of little benefit. In comments upon "Dr. Knock" in *The Lancet*, of May 22, 1926, he will find it is *The Lancet's* opinion that "the more experience the doctor has, the more he realizes that he can benefit" hardly any of his patients without the aid of suggestion. Doubtless one holding this opinion would be classed by Dr. Vallack as "cheerful idiot." Dr. Vallack has no doubt that "wonderful cures are achieved" by the means that he condemns, then why should he grumble even if autosuggestion and suggestion play a part in bringing about a much desired result.

Dr. Brown's letter is an outcry against what he terms "rubbish" and he thinks it would be discomforting to glandular therapists to know that the witches in Macbeth had forestalled their treatment. The earliest record of glandular treatment dates from between 625 and 700 B.C. when an angel commanded Tobias to take the heart, liver

and gall of a fish, the heart and liver to drive away a devil and the gall for healing "whiteness of the eye." Why should Dr. Brown imagine that because a method of treatment had withstood the most severe of all tests, that of "time," that the advocates of that method should be discouraged.

If the Drs. Vallack and Brown would contemplate a little on the wondrous changes brought about by tumours, dysfunctions, congenital defects or injury to endocrine glands, it would not surprise them so greatly that extracts from these organs might have some curative value and they might then be a little more charitable to those who, unilke themselves, would add to their want of knowledge of a most engrossing subject and one which if it has not already, will in the future have most far reaching, beneficial results.

Yours, etc.,

GUY P. U. PRIOR.

Mental Hospital, Parramatta,
November 18, 1926.

Congress Notes.

AUSTRALASIAN MEDICAL CONGRESS (BRITISH MEDICAL ASSOCIATION).

Programme of Sectional Meetings.

THE following details have been received from the Executive Committee of the Australasian Medical Congress (British Medical Association), Dunedin, 1927. The provisional programmes of all the twelve Sections have now been published.

SECTION V.—PREVENTIVE MEDICINE.

President: Dr. Harvey Sutton, O.B.E.

Vice-Presidents: Dr. T. W. Sinclair, Dr. R. W. Cilento, Dr. R. C. E. Atkinson, Dr. M. H. Watt.

Honorary Secretary: Professor C. E. Hercus, D.S.O.

Fraiday, February 4, 1927.

Morning.—Combined session with Sections I., II., IV. and XII. on goître:
"The Incidence, Ætiology and Prevention of Goître in Australia," by Dr. Harvey Sutton.
"The Incidence, Ætiology and Prevention of Goître in New Zealand," by Professor C. E. Hercus.

Afternoon.—"The Public Health Nurse: Antenatal Supervision" (author not yet chosen).
"The School Nurse," by Dr. Harvey Sutton.
"The Administrative Aspect of the Public Health Nurse," by Dr. M. H. Watt.

Monday, February 7, 1927.

Morning.—Discussion on diet and nutrition in combination with Section I.: "Diet Among New Guinea Natives," by Dr. R. W. Cilento.

Afternoon.—"Infantile Mortality in New Zealand," by Sir Truby King.

Tuesday, February 8, 1927.

Morning.—Combined meeting with Sections III. and IX. on the prevention of disease in infancy and childhood. "Prevention of Disease at the School Age," by Dr. Harvey Sutton.

Afternoon.—Combined meeting with Sections II. and IV.
"Parasitology: Hookworm," by Dr. T. R. Ritchie and Dr. R. W. Cilento.
"Parasitology in the Tropics," by Dr. R. W. Cilento.

Wednesday, February 9, 1927.

Morning.—"Possibility of Forecasting Outbreaks of Diphtheria," by Surgeon-Commander S. F. Dudley, R.N., to be followed by a general discussion on epidemiology. (At 11.30 a.m.).—Combined meeting of all Sections on cancer.

Afternoon.—"Fatigue in Industry," by Dr. J. S. Purdy.

SECTION VII.—OTOLOGY, RHINOLOGY AND LARYNGOLOGY.

President: Dr. R. H. Pulleine.

Vice-Presidents: Dr. S. A. Ewing, Dr. W C. Mansfield, Dr. W. N. Robertson, Dr. H. B. Gill, Dr. G. H. Hogg, Dr. J. Hardie Neil.

Honorary Secretary: Dr. W. E. Carswell.

Friday, February 4, 1927.

Afternoon.—Neuro-Otology and Diagnosis of Intracranial Disease," by Dr. R. H. Pulleine.
"Goître, Paralysis of the Laryngeal Nerves," by Dr. Isaac Jones.

Saturday, February 5, 1927.

Morning.—Combined meeting with Section VI.: "Diseases of the Eye and Disturbances of Vision by Nasal and Sinus Infections," opened by Dr. W. Kent Hughes, followed by Dr. E. Temple Smith.

Monday, February 7, 1927.

Afternoon.—"Spheno-Ethmoidal Disease," by Dr. T. A. MacGibbon.
"Vaccines in Diseases of the Nose," by Dr. R. H. Pulleine.

Tuesday, February 8, 1927.

Afternoon.—"Operative Treatment of Diseases of the Mastoid," by Professor N. H. Pierce.
"Conservatism in Treatment of Middle Ear Disease," by Dr. R. H. Pulleine.
"Acute Otitis Media," by Dr. H. Hays.

Wednesday, February 9, 1927.

Afternoon.—"Sinusitis in Children," by Dr. E. W. Gutteridge.
"Allergy," by Dr. George Piness.

SECTION X.—NAVAL AND MILITARY MEDICINE AND SURGERY.

President: Major-General G. W. Barber, C.B., C.M.G., D.S.O., V.D.

Vice-Presidents: Colonel R. M. Downes, C.M.G., V.D.; Lieutenant-Colonel J. S. Purdy, D.S.O., V.D.; Colonel G. W. Macartney, D.S.O.; Colonel W. W. Giblin, C.B., V.D.; Colonel R. Tracey-Inglis, C.B.E.

Honorary Secretary: Colonel E. O'Neill, C.M.G., D.S.O.

Friday, February 4, 1927.

Morning.—"Medical Work in the Field: With Special Reference to the Battle of Messines," by Colonel F. A. Maguire.

Afternoon.—"Medical Organization in War," by Colonel R. Tracey-Inglis.

Saturday, February 5, 1927.

Morning.—Staff Ride.

Monday, February 7, 1927.

Morning.—Discussion on the Staff Ride.

Tuesday, February 8, 1927.

Morning.—"Recruiting for Mobilization," by Colonel A. R. D. Carbery.

Afternoon.—Combined meeting with Section XI.: "The Cripple in War and from Industry," to be opened by Lieutenant-Colonel H. S. Newland.

Wednesday, February 9, 1927.

Morning.—"A Day at an Advanced Dressing Station near Crevecœur," by Major Kenneth F. Gordon.

Afternoon.—"Precautions for the Safety of the Civil Population During Air Warfare," by Squadron Leader A. P. Lawrence.

SECTION XII.—RADIOLOGY.

President: Dr. S. S. Argyle, M.L.A.

Vice-Presidents: Dr. H. R. Sear, Dr. H. C. Nott, Dr. A. T. Nisbet, Dr. D. I. R. Smith, Dr. F. J. Stansfield, Dr. N. McDougall.

Honorary Secretary: Dr. C. C. Anderson.

Friday, February 4, 1927.

Morning.—Combined meeting with Sections I., II., IV. and V. on goitre. Speaker for the Section, Dr. C. C. Anderson.

Afternoon.—President's Address: "The Progress of Radiology During the Past Twenty Years," by Dr. S. S. Argyle.

"Duodenal Ulcer," by Dr. H. A. McCoy.

"Duodenum," by Dr. H. R. Sear.

"Reflex Dyspepsia," by Dr. H. F. Praagst.

"X Ray Examination of the Colon," by Dr. D. F. Meyers.

Monday, February 7, 1927.

Morning.—Combined meeting with Section I. "Pneumothorax and 'Lipiodol,'" "The Medical Aspects of Hydatid Disease."

"X Ray Examination in Hydatid Disease," by Dr. Neil Guthrie.

Afternoon.—Combined meeting with Sections II. and IV. on the surgical aspects of hydatid disease: "X Ray Aspects of Hydatid Disease," by Dr. P. Cameron and Dr. C. C. Anderson.

Wednesday, February 9, 1927.

Morning.—"Radium Therapy," by Dr. H. Lawrence.

(At 11.30 a.m.)—Combined meeting of all Sections on Cancer.

Afternoon.—Combined meeting with Sections II. and IV. on inflammations and tumours of bone, Paget's disease, von Recklinghausen's disease, *leontiasis ossea*. Discussion by Dr. H. R. Sear, Dr. H. A. McCoy, Dr. S. S. Argyle, Dr. D. F. Myers.

Medical Appointments.

Dr. Esmond Frank West (B.M.A.) has been appointed Honorary Assistant Pathologist to the "Mareeba" Babies' Hospital, South Australia.

* * * *

Dr. Rupert Major Downes (B.M.A.) and Dr. Hugh Lathrop Murray (B.M.A.) have been appointed Members of the Masseurs Registration Board of Victoria.

* * * *

Dr. Joseph Love (B.M.A.) has been appointed Acting Public Vaccinator at Balaclava, Victoria.

* * * *

Dr. Henry Rogerson (B.M.A.) has been appointed Acting Medical Superintendent of the Hospital for the Insane, Kew, Victoria.

* * * *

Dr. Albert Curtis (B.M.A.) has been appointed Acting Medical Superintendent of the Hospital for the Insane and the Receiving House at Ballarat, Victoria.

* * * *

Dr. John Coffey (B.M.A.) has been appointed Deputy Commissioner, Department of Public Health, Brisbane.

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Dr. Richard Sanders Rogers (B.M.A.) and Professor Frederic Wood Jones have been elected Members of the Board of Governors of the Public Library, Museum and Art Gallery of South Australia.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants *locum tenentes* sought, etc., see "Advertiser," page xx.

DEPARTMENT OF PUBLIC HEALTH, VICTORIA: District Health Officer.

UNIVERSITY OF ADELAIDE: Elder Professor of Anatomy.

UNIVERSITY OF MELBOURNE: Director of Tubercular Research.

UNIVERSITY OF MELBOURNE: Lecturer in Public Health.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Ceduna, Wudinna (Central Eyre's Peninsula), Murat Bay and other West Coast of South Australia Districts.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia. Yarloop Hospital Fund.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

DEC. 13.—New South Wales Branch, B.M.A.: Organization and Science Committee.

DEC. 14.—Tasmanian Branch, B.M.A.: Branch.

DEC. 14.—New South Wales Branch, B.M.A.: Executive and Finance Committee.

DEC. 15.—Central Northern Medical Association, New South Wales.

DEC. 15.—Section of Obstetrics and Gynæcology, New South Wales Branch.

DEC. 17.—Queensland Branch, B.M.A.: Council.

DEC. 21.—Tasmanian Branch, B.M.A.: Council.

DEC. 21.—New South Wales Branch, B.M.A.: Medical Politics Committee.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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